READY-WRITTEN SPECIFICATIONS

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A Compendium of Clauses for Direct Use in Architectural Specifications

BY

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PREFACE

SPECIFICATIONS are a load assumed with bravado, borne with groans, and shifted, when they can be shifted, universally without regret.

The architect who is not a specialist in writing them, is apt to look on them as a set of quasi-magic formulae, which he does not fully understand nor really care to understand, but repeats dutifully and wearily, as a ritual handed down to him by wiser men. He believes, or half believes, that the word has power to save, that if he repeats often enough "to the approval of the Architect" and "guaranteed complete in every respect," then the house that is a-building should blossom in the perfect likeness of the house already built in his imagination. And yet, alas, he never feels completely sure. The road of the specifier is wearisome, since he is uncertain of the way.

In most cases the evil goes back to the first independent "job" of the budding architect. In office and in atelier the young man has been trained in drawing, in designing and in detailing; his maiden contract drawings are familiar work to him. He may have studied theoretical construction in some great school of architecture, or even done practical superintendence as a clerk of works, yet not one young architect in a hundred has ever had real instruction in the actual preparation of specifications. In his emergency he does what all other architects have done, he begs from some friend of older practice the specifications of some other undertaking as like in character to his own as he can find, and then cuts, pastes, writes in and crosses out as well as he knows how, to make a patchwork that will apply, more or less well, to the structure he has planned.

So he adopts his ritual, and ever after that he follows it, each new specification being just an alteration of those that have gone before. Paragraphs that have led to trouble are revised or stricken out, new devices and touches of personal technique are introduced, until on some happy job the work goes through with ease and speed to the complete satisfaction of all concerned. How much of this success is due to honest and skilled contractors who have the tact to supplement or to ignore his written word, the architect rarely can suspect! To him, the specifications of his best-starred job have turned the trick, and in spite of the omissions, the contradictions, the meaningless phrases which are inevitable in any such random growth, all future specifications that he writes will echo that first successful compilation.

Once at least, in almost every architect's career, he solemnly resolves that he will build up from the ground a model form of specification for his work. It shall be logically composed, well studied, scientific, free from the "vestigial remains" of his youthful borrowings. But the task is not an attractive one for holidays and on busy days the drive of immediate work precludes the search for the ideal, so another resolution is handed down to the Infernal Road Commissioner.

Some years ago the authors of the present book together made that same resolve, and circumstances favoring them, have finally seen it through. They here present their collection or store-house of specification material in the hope that it may make specification writing a better ordered undertaking, and with a feeling of greater certainty in the results give some relief from an arduous and ungrateful task.

We claim no great innovations in this work, no marked departures from accepted form, not even from the traditional method of compiling specifications. We started in the ancient way, by borrowing from others. Those we asked were the leading architects of New York and Philadelphia, and they most generously gave us access to any specifications they had. This material we have worked upon for several years, taking what seemed good here or better there, comparing systems, coordinating, arranging, and spending endless hours in pleasant argument on minutiae. Finally the various sections have been submitted to masters of the various crafts concerned, painters, plumbers, heater-men and roofers, to get what an architect rarely gets, the unbiased views of the men who do the work, in regard to the principles and practices of their trades.

The material we have thus compiled covers the greater part of what would be needed for the specifications of any residence, large or small, requiring merely such supplemental clauses as local peculiarities of site or building practices, or unusual fancies of the owner may dictate. For that matter, the material would very largely suffice for many other types of building, such as schools and colleges, churches and country hotels. We assume, of course, that before commencing to specify, the architect has planned his building, knows the material market at his command, and what grade and quality he can afford to use. We have provided for the necessary variations due to locality or cost, by leaving blanks in the clauses, with notes suggesting the nature of the insertions the architect is to supply. Thus we hope to provide a maximum field for our clauses to cover, with a minimum amount of composition on the part of the architect. Wherever possible—as for example in specifying fireplace facings, or stair trim, or supply piping—we have suggested that the material be tabulated, for the greater conciseness and clarity this arrangement provides, as well as for the insurance it gives against omissions.

If our efforts prove of aid to brother architects in the necessary performance of an unpleasant task, they should join with us in thanking those other architects who so freely gave us their specifications and their advice, and those experts in the various crafts who have criticised at length and in some cases have read proof with us. Among them particularly we wish to thank Mr. John Abronski, Mr. William Armstrong and Mr. Warren Armstrong, Mr. Thomas B. Brunt, Mr. L. P. Edwards, Mr. Harry I. Faust, Mr. William Nessler, Mr. Frank Rooney, Mr. J. Fletcher Street and Mr. Harold Watts.

We shall be most grateful for criticisms and suggestions from any who may use this book, so that if this edition should prove its worth, another may be made of greater service still.

DIRECTIONS

To the Architect.

Each section of this book has an index letter, each clause an index number.

When contract drawings have been prepared, read through the book clause by clause. If a clause is applicable to the work in hand, jot down its number on an "Index Sheet."

Clauses printed on left-hand pages are alternates to clauses opposite them on right hand pages. Alternate clauses are given common index numbers differentiated by 1, 2 or 3, written beneath. Thus $\frac{K\,5}{1}$ provides for tin flashing, but if zinc is to be used instead of tin, $\frac{K\,5}{2}$ is the clause to be noted down, and $\frac{K\,5}{3}$ is the clause for copper. $\frac{K\,5}{3\text{–}1}$ "LEAD COUNTER-FLASHING" is, as might be guessed, a clause which may be used with $\frac{K\,5}{3}$ but would not be used with $\frac{K\,5}{1}$.

Where blanks occur in the text, write *on your Index Sheet*, after the letter referring to the blank, the words you wish to have inserted. The notes in italics in the book indicate the sort of matter to be inserted; they are merely suggestions, however, not to be followed literally.

When it is desired to introduce matter peculiar to the work in hand, not to be found in the book, a new clause with appropriate heading should be written *on the Index Sheet*, in its proper place between the index numbers of clauses to be taken from the book.

Clauses which are not to be found in the book but which you wish to incorporate regularly or often in your specifications, should be written *in the book* on the left-hand pages left blank for that purpose, opposite the places on the right-hand pages where the new material would properly be inserted. Give as an index number to each new clause, the index number of the clause which precedes it, plus a decimal. Thus H 21–1 would be a new clause inserted between H 21 and H 22. In this way your own clauses become part of the regular material of the book.

While reading through, it is well to note on a separate sheet any details which you find should be added to the contract drawings.

Finally hand your Index Sheet to your stenographer with the following instructions:–

To the Stenographer.

Copy out of this book the clauses indicated on the Architect's Index Sheet, filling in the blanks with the words he has supplied. Insert any new clauses he has written, in their proper places as indicated by the index numbers.

Do not copy the index letters or numbers, the letters referring to the notes, or anything whatever that is printed in italics in the book.

SUGGESTIONS

THE pages of specifications should be numbered consecutively, either from beginning to end or beginning anew with each "Heading." In the latter case a heading letter should be added to the page number.

It is a convenience to have each clause numbered. This is best done beginning anew with each "Heading." If the page numbers have heading letters the clause numbers do not need them, and vice versa. An index should be bound in at the front of all specifications, giving the names of the "Headings" in order, with their index letters and the page where each commences.

The titles of the clauses may be written above them to the left, as in this book, thus:–

8. SMOOTH-FINISH COAT

The smooth-finish coat shall be composed of lime putty strained through a screen of 100 meshes to the square inch, mixed with a

or the titles may be set in, on a level with the first line, thus:–

8. SMOOTH-FINISH COAT The smooth-finish coat shall be composed of lime putty strained through a screen of 100 meshes to the square inch, mixed with a small portion of white

The second arrangement is slightly more economical of space, but probably requires a little more care on the part of the stenographer.

If carbon paper be placed face up under the first sheets as the specifications are being typewritten, thereby printing on the back as well as on the front, these sheets can be used for blue-printing extra copies, in case all the typewritten copies of the specifications become exhausted.

For general convenience and utility it is better to bind specifications at the left-hand edge, to open like a book, rather than at the top. The blank left-hand pages, formed by the backs of the typewritten sheets, can be used to advantage in the "office-copy" for notes on errors, corrections, time of completion of various parts of the work, and similar matters.

NOTE

At the end of the book we print "THE GENERAL CONDITIONS OF THE CONTRACT FOR THE CONSTRUCTION OF BUILDINGS" as issued by the American Institute of Architects, fourth edition. These are copyrighted and are reprinted here by special permission of the Institute.

The Institute also publishes standard forms for—Agreement between Contractor and Owner;– Bond of Suretyship;– Agreement between Contractor and Subcontractor;– Letter of Acceptance of Subcontractor's Proposal. All these are for sale at slight cost at the headquarters of the Institute, the Octagon House, Washington, D. C., and by dealers in all the large cities.

We strongly recommend that architects adopt these Standard Forms, and incorporate the Institute's General Conditions in their specifications. Our own General Conditions,—the first section of this book,—is included simply as a shorter and more flexible form, for the use of architects who may prefer to evolve their own General Conditions to suit their own particular problems.

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READY-WRITTEN SPECIFICATIONS

GENERAL CONDITIONS

A 1 PROPOSALS

Sealed proposals accompanied by the drawings and specifications must be sent to the office of the Architect at or before (*a*).....

(*a*) *hour and date*

A 2 RIGHT TO REJECT BIDS

The Owner reserves the right to reject any or all bids.

A 3 EXAMINATION OF PREMISES

The Contractor shall carefully examine the premises before submitting his bid. No allowance will be made him for lack of full knowledge of all conditions, except such underground conditions as are indeterminable before the commencement of the work.

A 4 TIME OF COMPLETION

The Contractor must state in his proposal the number of working days, from the date of signing the contract, in which he will guarantee to complete the work.

A 5 CHANGES

It is understood that the Owner shall have the right during the progress of construction to make any alterations, additions, or omissions that he may desire, to work or material herein specified or shown on drawings. The same shall be carried into effect by the Contractor without in any way violating or vitiating the contract, but if such changes are made, the value of same must be agreed upon in writing between Owner, Architect and Contractor. No omissions will be allowed or extra work paid for unless ordered in writing, by the Architect.

A 6 SPECIAL WORK NOT INCLUDED

The Owner reserves the right to have special work, not included in the contract, done during the course of the work herein included.

A 7 SUB-CONTRACTORS

All sub-contractors must be approved by the Architect before the contract is signed.

A 8 BOND

The Contractor shall, within ten (10) days after signing the contract, furnish the Owner with a bond of a Trust Company acceptable to the Owner, in a sum equal to 50 per cent of the contract price of the work, guaranteeing the faithful performance of his contract, and against loss by reason of any lien.

A 9 RELEASE OF LIENS

The Contractor shall furnish the Owner before a final payment is made, a full release of liens, signed by all sub-contractors and material men associated in any way with the work.

A 10 PERMITS

The Contractor shall obtain and pay for all permits, surveys, and Inspector's fees required, without extra cost to the Owner.

A 11 RESPONSIBILITY FOR ACCIDENTS

The Contractor must bear all loss or damage from accidents which may occur to any person or persons, by or on account of the prosecution of the work, until possession is taken by the Owner. The Contractor must provide all legal and necessary guards, railings, lights, warning-signs, etc., during the progress of the work.

A 12 WORKMEN'S COMPENSATION LAW

The Contractor must assume all risks and bear all losses occasioned by neglect or accident during the progress of the work until the same shall have been completed and accepted by the Architect. The Contractor shall obtain and pay for liability insurance covering the entire work, in accordance with any Workmen's Compensation Law which may be in operation now or put in effect before the completion of his contract.

A 13 INSURANCE

The (*a*)..... shall effect fire, lightning and tornado insurance, from time to time, equal to the amount of the payments made on account of the contract, and made payable to the Contractor or Owner, as their interests may appear.

(*a*) *Contractor; Owner.*

A 14 OMISSIONS

The drawings and specifications are intended to co-operate. Anything shown on the drawings but not mentioned in the specifications, or vice versa, or anything not expressly set forth in either, but which is reasonably implied, shall be furnished as though specifically shown and mentioned in both, without any extra charge. Should anything be omitted from the drawings necessary to the proper construction of the work herein described, it shall be the duty of the Contractor to so notify the Architect before signing the contract, and in the event of the Contractor failing to give such notice, he shall make good any damage or defect in his work caused thereby without extra charge.

A 15 DETAIL AND WORKING DRAWINGS

Additional detail and working drawings will be furnished in amplification of the contract drawings as they may be required. All such additional drawings are to be considered of equal force with those which accompany these specifications. A complete set of the drawings and specifications must be kept at the building at all times during the progress of the work.

A 16 SHOP DRAWINGS

The Contractor shall, upon request, submit shop drawings for the approval of the Architect.

A 17 DIMENSIONS

Figures given on the drawings govern scale measurements, and larger scale governs smaller.

A 18 QUESTIONS AND DISAGREEMENTS

All questions or disagreements between the Owner and the Contractor relating to the interpretation of the drawings and specifications, or the kind and quality of work and material required thereby, shall be referred to the Architect. His decision shall be final, conclusive and without appeal.

A 19 LAYING OUT THE WORK

The Contractor shall lay out the work from the drawings, to the approval of the Architect, and shall be responsible for any damage that may be sustained by the Owner or others from incorrect location of the building.

A 20 FOREMAN

The Contractor must have at the building from start to finish a responsible foreman. In addition, the Contractor must give the work his personal supervision. The foreman must be on duty during all working hours. Any instructions or notices given to him shall have the same force as if given to the Contractor in person.

A 21 WORKMEN

Any workman who in the opinion of the Architect is not capable, or who is careless in the execution of the work, must be removed upon the request of the Architect.

A 22 MATERIALS AND WORKMANSHIP

All materials and workmanship are to be the best of their several kinds, unless specified to the contrary. The Contractor is to furnish all accessories needed, such as scaffolding, forms, protection, and all other temporary work, unless otherwise distinctly specified.

A 23 BUILDING LAWS AND ORDINANCES

All materials and construction shall conform to the requirements of all building and sanitary laws in force in the locality in which the building is to be erected. The Contractor shall be responsible for any violation of the same, and shall make all work acceptable to the Building Department without extra charge.

A 24 DEFECTIVE OR IMPROPER WORK

Any work or materials not acceptable to the Architect must be removed by the Contractor and replaced by approved materials or work without extra compensation. All condemned material must be removed from the premises immediately.

A 25 INSPECTION

The Contractor shall afford the Architect every facility for inspecting the work and materials.

A 26 CLOSING IN WORK

No piping, wiring, ducts, etc., shall be covered up until properly inspected and approved, and until certificates, if required, shall have been issued for the same.

For temporary installation of heating apparatus see under "HEATING," page 223.

A 31
2

TEMPORARY WATER SUPPLY

All water required for building operations will be supplied at site by Owner, but connections, hose, etc., as may be necessary, shall be supplied by the General Contractor.

For temporary water supply installed by Plumber see under "PLUMBING," page 189.

A 27 CUTTING

All cutting and repairing of work shall be done without extra charge by the Contractor or sub-contractor whose work is to be cut.

A 28 PROTECTION

All materials in or designed for the work shall be at all times suitably housed or protected, particular care being taken of all finished parts.

A 29 PRIVY

The General Contractor shall provide a temporary privy with proper enclosure. This shall be removed on completion of the work and the premises be left in perfect condition.

A 30 FROST AND DAMPNESS

The General Contractor shall furnish all usual heating apparatus and fuel, or other appliances to protect the work from frost and dampness. No interior finish will be permitted in the building until the Architect is satisfied that the rooms are sufficiently dry.

A 31 / 1 TEMPORARY WATER SUPPLY

The Contractor shall make his own arrangements for water supply for building purposes.

A 32 CLEANING AND REFITTING

The building must be kept free from all surplus material, dirt and rubbish at all times. At the completion of the work all paint spots must be removed from floors and walls, and windows and doors refitted where required. All windows must be cleaned and such minor repairs and alterations made as may be necessary to make the building ready for occupancy.

A 33 GUARANTEE

The Contractor shall be responsible for and shall make good any defects due to faults in labor or material, which may arise or be discovered within one year after the completion of the work and its acceptance by the Architect.

A 34 RETURNING DRAWINGS AND SPECIFICATIONS

All drawings and specifications must be returned to the Architect before the final certificate will be issued by him to the Contractor.

DEMOLITION

B 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

B 2 WORK INCLUDED

Remove (*a*).....

Old foundations shall be removed wherever necessary to allow new walls to be carried to a solid bottom.

(*a*) *all walls, piers, etc., where indicated on drawings by dotted lines;– etc.*

B 3 OLD PIPES

Cut off all supply pipes, sewers, conduits, etc., 3′ outside of the excavations, and securely plug or cap the ends.

B 4 OLD WELLS

Fill in any old wells, cesspools, etc., that may occur, and lay reinforced concrete slabs over tops of same, unless otherwise directed.

B 5 OLD MATERIALS

Old materials taken from the present building, which in the opinion of the Architect are fit for use in the new building, shall be carefully cleaned and piled where directed and may then be re-used. All material not approved for re-use or reserved by the Owner shall become the property of the Contractor and be removed at once from the premises.

B 6 SHORING AND UNDERPINNING

Shore up and underpin all walls wherever necessary. The shoring shall be done with heavy inclined shores wedged to a solid bearing and supported, if necessary, on temporary piling and cribbing. All underpinning shall be done in short sections and shall be solidly built and thoroughly wedged up.

For excavation to be done by Plumber see under "PLUMBING," page 188.

EXCAVATION

C 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

C 2 STAKES AND BATTER-BOARDS

Lay out the building accurately under the supervision of the Architect and set such stakes, batter-boards, etc., as may be necessary.

C 3 PROTECTION OF SHRUBBERY

Build temporary boxes and frames to protect all existing trees and shrubs that are liable to be damaged during the progress of the work. This Contractor shall be responsible for all unnecessary damage to trees, shrubs, drives, lawns, etc.

C 4 REMOVAL OF TREES

Trees that interfere with the construction of the building may be removed, but not without approval by the Architect.

C 5 SOD AND SOIL

Carefully remove all sod and top soil to a depth of 9″ throughout the area of the building, and for 5′ beyond on all sides, and pile on premises where directed.

C 6 GENERAL EXCAVATION

Excavate for cellar, foundation walls, piers, areas, and such other work as may be necessary, to the depths shown on drawings. All trenches for foundation walls or piers must have solid, level and undisturbed bottoms. All exterior foundations shall go down at least (*a*) ..... below grade. The excavations shall be kept as free as possible from surface draining.

(*a*) *2′;– 4′;– etc.*

C 7 EXCAVATION BELOW FLOORS

Excavations shall be carried under all portions of the building to give a depth of at least 2′ below the bottom of all floor beams and girders.

For construction of cesspool see under "MASONRY," page 29, and "PLUMBING," page 197.

C 15
2

GRADING

Earth removed from excavation shall be used to form grades as shown on drawings. This Contractor shall supply such extra soil as may be necessary to complete grading. Top soil shall be used to cover grading to a depth of 6″, and extra top soil supplied if necessary.

C 8 BANK WALLS

Excavations for all exterior foundations shall extend at least 6″ beyond each face of the wall. No bank walls will be permitted.

C 9 EXCAVATION FOR PIPING

Excavate for drainage system and piping, as the Plumber may direct, and do all such miscellaneous excavating as may be necessary for the completion of the building and its equipment.

C 10 DRY WELLS

Construct dry wells where shown on drawings. These shall be 3′ in diameter and be carried 4′ below the point at which drain pipe enters them. They shall be filled with small or broken stones, brickbats, etc. to within 1′ of grade.

C 11 AREA DRAIN PITS

Construct under floor of each area a drain pit 2′ in diameter and 2′ deep. This shall be filled with cinders or broken stone.

C 12 CESSPOOL

Excavate for cesspool where directed at a distance of (*a*)..... from building; excavation to be 11′ in diameter, and to be carried 8′ below point at which drain pipe enters it.

(*a*) *50′;– 75′;– etc.*

C 13 SEPTIC TANK

Excavate where directed, at a distance of (*a*)..... from building, for septic tank specified under the heading (*b*).....

(*a*) *40′;– 50′;– etc.*
(*b*) *"CONCRETE";– "PLUMBING."*

C 14 FILLING AROUND MASONRY

Refill around all masonry when directed by the Architect. Unless otherwise specified, all filling must be thoroughly puddled and rammed and be brought up to a sufficient height and so graded as to drain water away from building.

C 15 / 1 GRADING

Earth removed from excavations shall be used to form an even and neat slope from the building, as directed by the Architect, and shall then be covered over with top soil. All earth not used for refilling or grading is to be carted away by this Contractor unless otherwise directed.

GENERAL MASONRY

D 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

This Contractor shall furnish all appliances, tools, derricks, scaffolds, and all other material required to carry out his contract in the most rapid and thorough manner.

D 2 CEMENT

All cement shall be (*a*).....

(*a*) *an approved brand of Portland cement;– name of brand.*

D 3 WHITE CEMENT

White cement of (*a*)..... brand shall be used for (*b*).....

(*a*) *approved;– name of brand.*

(*b*) *exterior stucco;– glazed brickwork;– etc.*

D 4 SAND

All sand used throughout the work must be approved by the Architect. It shall be clean, sharp sand or clean, yellow gravel, free from foreign matter.

D 5 CINDERS

All cinders shall be clean bituminous cinders, broken up and sieved and free of all coal dust and dirt.

D 6 MORTAR BOXES

Provide proper boxes for mixing mortar. No mortar or plaster may be mixed on the ground or floors of the building.

D 7 PROTECTION

All mason work shall be suspended during freezing weather, except when specially permitted by the Architect. All walls, floors, etc., recently built, must be properly protected from the weather and from all injury. All work injured by the weather must be taken down and rebuilt. All masonry sills or projecting work must be protected by boarding, immediately after setting.

D 8 CHASES

This Contractor shall ascertain where all chases or openings for pipes, wires, ducts, etc., are to go, and not wait for such information to be given him. He shall construct all such chases as shown or required, subject to the approval of the Architect.

D 9 SCUPPERS OR WEEP HOLES

Build all scuppers according to detail where shown on drawings.

D 10 RADIATOR RECESSES

Provide all recesses for radiators in masonry walls where shown.

D 11 ANCHORS, ETC.

This Contractor shall build in all anchors, joggles, bolts, flashings, wall plugs, nailing strips, beams, frames, etc., as may be required. These materials shall be placed according to the directions of those who furnish them.

D 12 SETTING STEEL LINTELS

All flat arches where shown on drawings, unless otherwise specified, shall have steel lintels at back of same. These lintels are provided under the heading "IRON AND STEEL" but shall be set by this contractor.

D 13 SETTING FRAMES

Set all frames as directed and fill with plaster between the frames and masonry until all spaces are solid.

D 14 CALKING

Calk thoroughly with oakum or roofer's cement around all frames in exterior masonry walls, and make them absolutely tight.

D 15 INSULATION FOR FLOORS

Fill in with mortar between joists on insulating floor provided under the heading "CARPENTRY."

D 16 FIRE STOPS

Fill in with stone or brick between the ends of all wood joists where they rest upon walls or partitions. The height of the filling shall be the thickness of the floors. Fill also between the rafter heels from the wall plate to the roof sheathing.

D 18
2

WATERPROOFING BASEMENT

The basement shall be made waterproof by the application of (*a*)..... coats of (*b*)..... to the exterior of the foundation walls from bottom of the footings to grade level. All walls must be thoroughly dry before this coating is applied.

(*a*) *one;– two;– etc.*
(*b*) *asphalt;– name of waterproofing compound;– etc.*

D 17 GYPSUM BLOCK PARTITIONS

Gypsum block partitions where indicated on drawings shall be built of (*a*)..... gypsum hollow tile, laid with vertical joints broken.

(*a*) *name of brand and thickness.*

D 18/1 WATERPROOFING BASEMENT

The basement shall be made waterproof by the addition of (*a*)..... waterproofing compound to all plaster on the (*b*)..... face of exterior walls, and the basement floor. This waterproofing shall be done according to the directions of the manufacturers.

(*a*) *name of brand.*
(*b*) *exterior;– interior;– etc.*

D 19 WATERPROOFING ABOVE GRADE

All exterior walls above grade shall be made waterproof by the application of (*a*)..... coats of (*b*)..... All walls must be thoroughly dry before this coating is applied.

(*a*) *one exterior;– two interior;– etc.*
(*b*) *asphalt;– name of waterproofing compound;– etc.*

D 20 INTERIOR WHITEWASH

On the completion of the building, a good coat of whitewash shall be applied to all basement walls, ceilings, piers, and partitions, unless otherwise specified.

D 21 EXTERIOR WHITEWASH

Whitewash (*a*)..... with a mixture composed of 10 parts freshly slaked lime and 1 part Portland cement mixed well with salt water and applied thin.

(*a*) *all exterior walls;– area walls;– garden walls;– etc.*

E 1
2

CEMENT MORTAR

All mortar for stone masonry, unless otherwise specified, shall be composed of 1 part cement, 3 parts sand, and 1/10 part lime paste.

For concrete foundation walls and concrete area walls see under "CONCRETE," pages 36, 37 and 39.

STONE MASONRY

E 1/1 CEMENT MORTAR

All mortar for stone masonry, unless otherwise specified, shall be composed of 1 part cement and 3 parts of sand.

E 2 NON-STAINING CEMENT MORTAR

All mortar for cut stone work shall be composed of 1 part lime paste, 3 parts sand, and 1/6 part of an approved brand of stainless cement.

E 3 LIME MORTAR

Lime mortar shall be composed of 1 part freshly burned lime and 3 parts sand. All mortar must be used immediately after being mixed. No re-mixing or re-tempering will be permitted.

E 4 FOUNDATION STONE

All foundation walls shown on the drawings, up to a line 6″ below the finished grade, and all other unexposed stone masonry shall be of large, hard local building stone, which must be approved by the Architect.

E 5 FACE STONE

All exposed stone work, unless otherwise specified, shall be (*a*).....

(*a*) *name of stone.*

E 6 CUT STONE

The cut stone throughout the building shall be as follows: (*a*).....

(*a*) *LOCATION*	*KIND OF STONE*	*QUARRY OR GRADE*	*FINISH*
Steps,	*bluestone,*	.....	*fine-pointed*
Sills,	*limestone,*	.....	*eight-cut*
Caps,	*limestone,*	.....	*six-cut*
Fireplace facing,	*Caen stone,*	.....	*rubbed*
etc.	*etc.*	*etc.*	*etc.*

E 9
2

FACE STONE WORK

All exposed stone work shall be (*a*).....

(*a*) *uncoursed rubble;– coursed rubble with squared quoins;– ranged ashlar;– etc.*

E 11
2

SAMPLES OF STONE WORK

The Contractor shall lay up to the approval of the Architect a portion of the face stone work showing size and type of stone, type and color of pointing, etc.

For concrete footings see under "CONCRETE," page 37.

E 7 SETTING

All stones shall be laid on their natural bed, thoroughly bonded and bedded. Bond or through stones shall be placed not more than 5′ apart. All joints shall be filled up tight with mortar and spalls. All corners and jambs shall be run straight and true. All putlock holes shall be large and on completion shall be filled with large stones.

E 8 SETTING CUT STONE

No joint in cut stone work shall exceed 3/16″ in width. Mortar shall be raked out to a depth of at least 3/4″ for pointing. Copings and projecting courses shall be set with dry joints, to be calked later with oakum and filled flush with grout. Facing stones shall be set on wooden wedges which shall not be removed until the stone work is cleaned and pointed.

E 9 / 1 FACE STONE WORK

All exposed stone work shall be laid up as directed by the Architect, in the manner indicated on the drawings.

E 10 POINTING

Scrape out all joints thoroughly to receive pointing. All exterior work shall be pointed with cement mortar colored as the Architect may direct.

E 11 / 1 SAMPLES OF POINTING

The Contractor for this work shall submit samples of the pointing before beginning the work.

E 12 CLEANING CUT STONE

The face of all cut stone work shall be thoroughly cleaned with soap and water and fibre brushes. No wire brushes or acids will be permitted.

E 13 DASHING

The inner side of basement walls (*a*)..... shall be plastered with cement mortar, composed of 1 part cement and 2-1/2 parts sand, troweled to an even surface. All basement walls shall be plastered on the outside with cement mortar as the walls are built.

(*a*) *throughout;– in laundry;– in milk cellar;– etc.*

E 14 FOOTING STONES

All footing stones shall be large, flat stones extending the full width of the footings.

If cesspool is to be included in Plumber's contract, see under "PLUMBING," page 197, for cesspool and cesspool top.

E 15 SELECTED STONES

(*a*)..... shall be selected stones, accurately cut to the required shape.

(*a*) *Copings;– Caps;– Arch-stones;– Corbels;– etc.*

E 16 STONE LINTELS

Stone lintels, where shown on drawings, shall be of selected, large, flat stones.

E 17 FLAGSTONE

Provide and set, where shown, flagstone (*a*)..... The thickness shall be (*b*).....

(*a*) *caps to piers in basement;– copings;– steps;– manhole covers;– etc.*
(*b*) *2″;– 2-1/2″;– 3″;– etc.*

E 18 FLAGSTONE WALKS AND TERRACES

Provide and set flagstone walks and terraces where shown on drawings, of (*a*)..... material laid as indicated and of dimensions shown. Each stone shall be well bedded in sand, and unless otherwise specified shall have a pitch of 1/4″ to the foot.

(*a*) *2-1/2″;– 3″;– etc.*

E 19 FOOTING DRAINS

Provide and build a footing drain around the outside of the basement walls, starting at the high point (*a*)..... and emptying at the low point (*b*)..... into an 8″ tile drain which shall be carried to (*c*)..... The footing drain shall be of 4″ vitrified tile pipe laid with open hubs and graded to an even pitch of at least 1/8″ to the foot. Each hub shall be covered on top with tarred felt to prevent the intrusion of earth. The drain pipe shall be laid on a firm earth bed, and the trench in which it is laid filled for a distance of 18″ from the face of the foundation wall with broken stone, to within 8″ of the finished grade.

(*a*) *S. E. corner of kitchen wing;– etc.*
(*b*) *N. W. corner of main building;– etc.*
(*c*) *sewer;– dry well;– cesspool;– etc.*

E 20 CESSPOOL

Construct cesspool where directed, at a distance of (*a*)..... from building. The walls shall be 16″ thick, of stone laid up without mortar.

(*a*) *50′;– 70′;– etc.*

E 21
2

CESSPOOL TOP

The cesspool is to be covered with a cement top, provided under the heading "CONCRETE."

E 21
1

CESSPOOL TOP

The top of the cesspool shall be covered with an 8″ brick dome with manhole, finishing 12″ below the finished grade. The manhole shall be fitted with (*a*).....

(*a*) *3″ flagstone cover;– cast iron cover, provided under the heading "PLUMBING";– etc.*

CONCRETE

F 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

F 2 WORK INCLUDED

Under this contract is included (*a*) . . . . . , and all other work wherever indicated on drawings as being of concrete.

(*a*) *walls;– floors;– beams;– pavements;– steps;– etc.*

F 3 CEMENT

All cement shall be (*a*) . . . . . .

(*a*) *name of brand;– an approved brand of Portland cement.*

F 4 SAND

All sand must be approved by the Architect. It shall be coarse, clean, sharp sand, or clean yellow gravel, free from foreign matter.

F 5 CINDERS

All cinders shall be clean anthracite cinders, broken up and sieved and free of all coal dust and dirt.

F 6 STONE

All stone used in plain concrete shall be good hard broken stone, of sizes from 1/2″ to 1-1/2″, free from dust and dirt.

F 7 STONE FOR REINFORCED CONCRETE

The stone used in reinforced concrete shall be good hard broken stone in sizes from 1/4″ to 3/4″, free from dust and dirt.

F 8 REINFORCING RODS

All reinforcing rods are provided under the heading "IRON AND STEEL."

F 9 PROTECTION FROM WEATHER

All concrete work shall be discontinued during freezing weather except when specially permitted by the Architect. All work recently built must be properly protected from the elements. All work injured by the weather must be taken down and rebuilt.

F 10 CHASES

This Contractor shall ascertain where all chases or openings for pipes, wires, ducts, etc. are to go, and not wait for such information to be given him. He shall construct all such chases as shown or required, subject to the approval of the Architect.

F 11 ANCHORS, ETC.

This Contractor shall build in all anchors, joggles, bolts, flashings, wall plugs, frames, etc. as may be required. These materials shall be placed according to the directions of those who furnish them.

F 12 WATERPROOFING

All (*a*)..... shall be waterproofed by the addition of (*b*)..... waterproofing compound. This waterproofing shall be done according to the directions of the manufacturers.

(*a*) *exterior walls;– basement floors;– etc.*
(*b*) *name of brand.*

F 13 PLAIN CONCRETE

Plain concrete shall be mixed in the proportions of 1 part cement, 3 parts sand, and 6 parts broken stone.

F 14 CINDER CONCRETE

Cinder concrete shall be mixed in the proportions of 1 part cement to 5 parts cinders.

F 15 REINFORCED CONCRETE

All reinforced concrete shall be mixed in the proportions of 1 part cement, 2 parts sand, and 4 parts broken stone.

F 16 CONCRETE BLOCK

All concrete blocks shall be best-quality 8″×8″×16″ hollow cement blocks, made of 1 part cement and 3 parts sand, and shall be allowed to set for sixty (60) days before being used.

F 23/2 CONCRETE BLOCK FOUNDATIONS

All foundation walls up to within 6″ of finished grade, and all other unexposed masonry unless otherwise indicated, shall be of concrete block of dimensions shown on drawings.

F 23/3 CONCRETE BLOCK WALLS

All walls throughout the building, unless otherwise indicated, shall be of concrete block of dimensions shown on drawings.

F 17 MIXING

If a mechanical mixer is not used, mix cement and sand dry so that the whole mass appears uniform in color, then add water and mix to a proper consistency; after a thorough wetting add the stone and mix to a uniform mass.

F 18 MIXING BOXES

Provide proper boxes for mixing concrete. No concrete may be mixed on the ground or floors of the building.

F 19 FORMS

Construct all forms so that they will be water-tight, true to line and form. The forms shall be sufficiently rigid to resist bending under load and dumping. Forms must not be removed until permission is given by the Architect.

F 20 PLACING REINFORCEMENT

Special care must be taken that reinforcing members be placed exactly in the positions indicated on the drawings.

F 21 POURING

All concrete must be poured into forms immediately after mixing. Concrete must be thoroughly tamped immediately after pouring.

Where concrete is to have an exposed surface, a flat tool shall be worked between the face of the form and the concrete, forcing back large stones so that finished surface will be smooth and uniform.

F 22 CONCRETE FOOTINGS

All footings indicated on drawings shall be (*a*)..... concrete of dimensions shown.

(*a*) *plain;– reinforced.*

F 23 / 1 CONCRETE FOUNDATIONS

All foundation walls, up to within 6″ of finished grade, and all other unexposed masonry, unless otherwise indicated, shall be plain concrete of dimensions shown on the drawings.

F 24 CONCRETE AREA WALLS

Area walls, where shown on drawings, shall be of concrete of dimensions shown.

F 25 CONCRETE LINTELS

Provide and set, in accordance with detail drawings, reinforced concrete lintels over openings No. (*a*).....

(*a*) *number shown on drawings.*

F 26 INTERIOR CEMENT FLOORS

Level up the earth under the (*a*)..... floor and cover with a 6″ layer of cinders well rammed. Then lay 3″ of cinder concrete. On top of this put a finishing coat fully 1″ thick, composed of 1 part cement and 2 parts sand, all of which shall be floated smooth. The cement shall be cut into squares not greater than 6′×6′, or as shown on drawings. All joints shall continue to bottom of concrete and be filled with sand. All work shall be level except where required to pitch for draining. Where pipes under floors run close to the surface, the work shall be reinforced with galvanized wire cloth to prevent cracking.

(*a*) *basement;– garage;– etc.*

F 27 CEMENT BASES

Cement floors of (*a*)..... shall have a cement base 6″ high with 1-1/2″ cove at floor.

(*a*) *kitchen;– laundry;– etc.*

F 28 EXTERIOR CEMENT FLOORS

The (*a*)....., where so indicated, are to be paved with cement as specified for interior floors, except that the cinder fill shall be 12″ in depth. They shall be marked off as indicated on drawings.

(*a*) *porch floor;– terraces;– etc.*

F 29 PROVISION FOR HEAT PIPES

Provide and set 4″ terra cotta pipes in cement floors where shown on drawings, to receive heat pipes.

F 30 CEMENT AREA FLOORS

Floors of all areas shall consist of 3″ of cinder concrete, and a 1″ finishing coat composed of 1 part cement and 2 parts sand, pitched to drains. The drains are provided under the heading "PLUMBING."

F 31 CEMENT SIDEWALK

The sidewalk from (*a*)..... to (*b*)..... shall be (*c*)..... in width, as indicated on drawings. The construction shall be the same as specified for interior cement floors except that the cinder fill shall be 12″ in depth.

(*a*) *Porch;– etc.*
(*b*) *Street;– etc.*
(*c*) *3′–6″;– etc.*

F 32 COLORED CEMENT PAVING

Cement (*a*)..... shall be colored to the approval of the Architect by the addition of (*b*).....

(*a*) *porch floor;– terraces;– sidewalk;– etc.*
(*b*) *raw iron oxide;– lampblack;– yellow ochre;– marble dust;– etc.*

F 33 CONCRETE UNDER WOOD FLOORS

Floors in (*a*)..... shall be wood floors laid over concrete. The concrete shall be the same as specified for interior cement floors except that the finishing coat shall be omitted. The wood floor will be nailed to sleepers set in the concrete. These wood floors and sleepers will be supplied and set as provided under the heading of "CARPENTRY."

(*a*) *Laundry;– basement;– etc.*

F 34 PREPARATION FOR TILE FLOORS

In (*a*)..... the rough wood flooring will be provided and set by the Carpenter. The contractor for concrete work shall then fill in with plain concrete to a height to be determined by the Architect.

(*a*) *Bathrooms No.—;– Vestibule;– etc.*

F 35 CEMENT UNDER-HEARTHS

Lay under-hearths for fireplaces in (*a*)..... of reinforced concrete as detailed.

(*a*) *Dining room;– Living room;– etc.*

F 36 CEMENT KITCHEN HEARTH

Lay cement hearth for kitchen range, of size shown on drawings. The base shall be composed of cinder concrete; the finishing coat shall be 1″ thick, of 1 part cement and 2 parts sand, floated smooth.

F 37 CEMENT COPINGS

Provide cement copings for walls where shown, with wash and drip as detailed. The concrete shall be a 1:2:4 mixture.

F 38 CEMENT SILLS

Provide cement sills for (*a*)....., as detailed. The concrete shall be a 1:2:4 mixture.

(*a*) *basement windows;– openings No. ....;– etc.*

F 39 CEMENT STEPS

Build cement steps to (*a*)..... where shown, of concrete reinforced with heavy expanded metal. The foundation to steps shall be as shown on drawings.

(*a*) *Basement;– Rear porch;– etc.*

F 40 CEMENT CESSPOOL TOP

Provide as top for cesspool a 5″ concrete slab with 1/2″ reinforcing rods, spaced 6″ on centers. Build in it a 2′ square manhole, to be fitted with a removable (*a*).....

(*a*) *3″ flagstone cover;– cast-iron cover, provided under the heading "PLUMBING";– etc.*

F 41 CEMENT CAPS

Provide chimney caps of cement as shown on drawings. The concrete shall be a 1:2:4 mixture.

F 42 DRESSED CONCRETE

Exposed faces of all (*a*)..... shall be dressed with hammer or crandall to the approval of the Architect.

(*a*) *copings;– sills;– steps;– caps;– etc.*

G 8
2

FACE BRICK

All exposed brick shall be (*a*)..... similar to the sample in the Architect's office.

(*a*) *name of brand, grade, etc.*

BRICKWORK

G 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

G 2 WORK INCLUDED

Under this contract is included (*a*)....., and all other work wherever indicated on drawings as being of brick.

(*a*) *walls;– piers;– steps;– chimneys;– fireplaces;– paving;– etc.*

G 3 LIME-CEMENT MORTAR

Mortar for brick masonry, unless otherwise specified, shall be composed of 1 part cement and 3 parts lime mortar. Lime mortar shall be composed of 1 part fresh burned lime and 3 parts sand.

G 4 CEMENT MORTAR

Mortar for (*a*)..... shall be composed of 1 part cement and 3 parts sand.

(*a*) *pointing brickwork;– fireplaces;– hearths;– all brick masonry;– etc.*

G 5 COLORING

Coloring matter shall be added to mortar as directed by the Architect.

G 6 GRIT OR PEBBLES

Grit or pebbles shall be added to mortar as directed by the Architect.

G 7 COMMON BRICK

All brick throughout the work, unless otherwise specified, shall be the best hard burned common brick, approved by the Architect. Salmon brick will not be permitted on the premises.

G 8 / 1 FACE BRICK

All exposed brick shall be best hard burned brick, sound and straight, and must be approved by the Architect.

G 11
2

BRICK VENEER

All walls indicated on drawings as brick veneered shall be constructed of 4″ of face brickwork, laid against frame walls sheathed and covered with building paper. The brickwork shall be firmly secured to the sheathing by approved galvanized iron anchors, built in every fourth course and nailed to each stud. In hot and dry weather all bricks must be laid wet; in freezing weather they must be kept warm and dry. All bricks must be laid with solid joints.

G 9 ORNAMENTAL BRICK

All belt courses, cornices, arches, patterns, or other special brick features are to be laid up according to the details furnished by the Architect.

G 10 MOULDED BRICK

Provide and set as detailed all moulded brick shown on drawings. The color of these bricks must match the color of the remainder of the brickwork.

G 11/1 WORKMANSHIP

In hot or dry weather all bricks must be laid wet, in freezing weather they must be kept warm and dry. All bricks must be laid with solid joints, the mortar being put on the bricks at the time of laying and not flushed or grouted in. No empty spaces, no matter how small, shall be left in the walls unless so shown on the plans or directed. Fill in with brick between the ends of all beams, whether specially shown on the drawings or not.

G 12 SPECIAL BOND

All face work, unless otherwise specified or shown on drawings, shall be laid up in (*a*)..... bond as directed.

(*a*) *Flemish;– English;– eic.*

G 13 COMMON BOND

All brickwork (*a*)..... shall be laid up in common bond, with every fifth course composed of alternate headers and stretchers. The headers are to be whole bricks.

(*a*) *unless otherwise specified;– for interior partitions;– for garden walls;– etc.*

G 14 POINTING

All face brickwork shall have the joints neatly (*a*)..... to the approval of the Architect.

(*a*) *struck;– tooled;– cut flush;– etc.*

G 15 SAMPLES OF BRICKWORK

The contractor shall lay up, to the approval of the Architect, a portion of the face brick, showing bond, color and texture of mortar, and pointing.

For cement under-hearths see under "CONCRETE," page 41.

G 20
2

FIREPLACE THROATS

Form brick throats to fireplaces according to detail drawings.

G 16 RELIEVING ARCHES

Brick relieving arches shall be turned over all openings in outside walls, except where otherwise specified. Similar arches shall be turned over all inside openings in masonry walls. The arches shall be as follows:

When the span is less than 3′, use 2 rings,
from 3′ to 4′, use 3 rings,
from 4′ to 5′, use 4 rings,
over 5′, build as directed.

G 17 MANHOLES

Build brick manhole with 9″ walls where indicated on drawings. Set cast iron cover provided under the heading "PLUMBING."

G 18 COLD-AIR DUCT

Construct cold-air duct below the cellar floor where indicated on drawings. The inside dimensions shall be (*a*)..... The floor of duct shall be of cement as specified for the basement floor. The sides shall be (*b*)....., and the top shall be covered with (*c*)..... (*d*).....

(*a*) *12″×24″;– 20″×30″;– etc.*
(*b*) *4″ brick;– 6″ concrete;– etc.*
(*c*) *3″ flagstone;– cast iron plate provided under the heading "PLUMBING";– etc.*
(*d*) *laid 1″ below basement floor and cemented over;– flush with basement floor.*

G 19 TRIMMER ARCHES

Turn trimmer arches under all hearths unless otherwise noted. Fill in same with concrete to under side of finished hearth.

G 20/1 THROATS AND DAMPERS

Set in fireplaces, according to drawings, dampers as provided under the heading "IRON AND STEEL."

G 21 FLUE CLEANOUT DOORS

Set cleanout doors for flues where indicated on drawings. These are provided under the heading "IRON AND STEEL."

G 22 ASH-PIT AND CLEANOUT DOORS

Build ash-pits in basement, as shown, with chute from fireplace in (*a*)..... Set iron frame and hinged cover in each hearth; also set cast iron cleanout doors in basement for each ash-pit. These covers and cleanout doors are provided under the heading "IRON AND STEEL."

(*a*) *Living Room;– Dining Room;– etc.*

G 23 INCINERATOR

Build in where shown on drawings a (*a*)..... incinerator with flues and hoppers all according to detail drawings. This incinerator is provided under the heading "HEATING."

(*a*) *name of brand, size, and type.*

G 24 CHIMNEYS

Up to the under side of the roof, chimneys shall be built of common brick laid in cement mortar, unless otherwise indicated.

G 25 FLUE LININGS

Provide and set for all flues, flue linings of hard burned terra cotta, without hubs, of sizes shown on drawings. Miterings shall be cut half on each piece and joints brought together accurately. Special care must be taken that all joints are smooth and free from projecting mortar on the inside.

G 26 GROUTING AROUND FLUE LININGS

Grout carefully around all flue linings as the chimneys are being built.

G 27 CHIMNEY POTS

Chimneys shall have (*a*)..... terra cotta chimney pots of pattern shown.

(*a*) *dark red;– buff;– etc.*

G 28 BRICK HEARTHS

Build hearth in (*a*)..... of (*b*)..... brick as shown on drawings.

(*a*) *Kitchen;– Living Room;– etc.*
(*b*) *name of brand.*

G 29 BRICK FIREPLACES

Build fireplace in (*a*)..... of (*b*)..... brick as shown on drawings.

(*a*) *Living Room;– Dining Room;– etc.*
(*b*) *name of brand.*

G 30 FIRE BRICK

Build jambs and back of fireplace in (*a*)..... of approved fire brick set in cement mortar as indicated on drawings.

(*a*) *Living Room;– Dining Room;– etc.*

For cement floors to areas see under "CONCRETE," page 39.

G 35
2

BRICK PAVING

All brick paving, where indicated on drawings, shall be of (*a*)..... brick laid in the pattern indicated. The outer courses shall be bedded in Portland cement mortar. The balance shall have sand joints finished with a Portland cement grout. The bed shall be composed of a 2″ sand cushion laid over 6″ of cinder concrete.

(*a*) *name of brand.*

G 31 KITCHEN CHIMNEY BREAST

Face the kitchen chimney breast with (*a*)..... brick. This brickwork is to extend from floor to ceiling and shall have bull-nose brick at corners. The cement mortar used shall be colored as directed.

(*a*) *white;– cream-colored;– vitrified;– glazed;– enameled;– etc.*

G 32 BRICK AREA WALLS

Area walls, where shown on drawings, shall be of brick of dimensions shown.

G 33 BRICK AREA FACINGS

Face the inside walls of all areas with (*a*)..... brick, laid up with narrow joints neatly pointed.

(*a*) *white;– cream-colored;– vitrified;– glazed;– enameled;– etc.*

G 34 BRICK AREA FLOORS

Floors of areas shall be of paving brick laid in sand over a 10″ bed of well-packed cinders.

G 35 / 1 BRICK PAVING

All brick paving, where indicated on drawings, shall be of (*a*)..... brick laid in cement mortar, in the pattern indicated. The bed shall be composed of 4″ of cinder concrete.

For exterior brick paving, this concrete bed shall be laid on 12″ of thoroughly compacted cinders. Where brick paving is laid on filled ground, the earth shall be thoroughly compacted by tamping to make the whole perfectly solid. Samples of paving shall be laid for the Architect's approval.

(*a*) *name of brand.*

HOLLOW TILE

H 1 WORK INCLUDED

Hollow tile shall be used for (*a*)..... and wherever else indicated on drawings.

(*a*) *exterior walls;– interior walls;– basement partitions;– floors;– piers;– furring;– etc.*

H 2 HOLLOW TILE BLOCKS

All hollow tile blocks used throughout the building shall be (*a*)....., of thickness shown on drawings. All hollow tile must be hard burned, true, and regular in size. Cracked or broken blocks will not be permitted in the building.

(*a*) *name of brand for bearing walls and name of brand for partitions.*

H 3 MORTAR

All mortar used for laying up the hollow tile blocks shall be composed of 1 part cement to 3 parts clean, sharp sand. If preferred, lime paste may be added, not to exceed 1/10 part.

H 4 SETTING

All blocks used in the exterior walls and bearing partitions must be set with the holes or cores vertical. Care must be taken to see that in exterior walls mortar is placed only at outer and inner edges of joints, leaving a proper air space between. Special sized blocks must be used where necessary to secure a good bond.

H 5 HOLLOW TILE FLOORS

All hollow tile floors shall be of (*a*)....., constructed as indicated on drawings and in strict accordance with the methods recommended by the manufacturer for the best grade of work.

(*a*) *name of type of construction.*

H 6 JAMB-BLOCKS

Provide special jamb-blocks rabbeted to receive window boxes for all double-hung windows. Fill well with mortar the space between the blocks and frame, to within 1″ of stop-bead. Then calk to stop-bead with roofer's cement or oakum, to prevent the passage of air or moisture.

H 7 SILL-BLOCKS

Provide special sill-blocks for all hollow tile sills. Set wood sills in a bed of (*a*).....

(*a*) *roofer's cement;– mortar.*

H 8 HOLLOW TILE LINTELS

Openings not exceeding 5′ in span, unless otherwise specified, shall have lintels of stock tile reinforced with rods in lower cells, and filled solid with concrete. Special arch lintel blocks may be used if preferred.

H 9 IRON LINTELS

Openings exceeding 5′ in span shall have lintels of structural iron provided under the heading "IRON AND STEEL."

H 10 ARCH OPENINGS

All arch openings shall be spanned with rowlock arches of common brick, as indicated on drawings.

H 11 COLUMNS AND PIERS

Columns and piers shall be of hollow tile of dimensions shown on drawings, filled solid with concrete.

H 12 BEARING SLABS

Provide and set 1″ thick terra cotta bearing plates under all joists.

H 13 BEAM AND RAFTER COURSES

Special blocks shall be used where beams and rafters are framed into exterior hollow tile walls, in order to avoid cutting tiles.

TERRA COTTA

I 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

I 2 WORK INCLUDED

Under this contract is included the manufacture and setting of (*a*)..... and all other work wherever noted on drawings as being terra cotta.

(*a*) *doorways;– cornices;– medallions;– balustrades;– etc.*

I 3 SHOP DRAWINGS

Immediately upon receipt of drawings and details, the contractor for terra cotta shall have prepared, at his own expense, shop drawings and details of all portions of the work covered by his contract. These drawings shall show all anchors and steel work necessary for the support of the terra cotta and shall be submitted in duplicate as often as may be necessary until approved by the Architect. The Architect's approval of shop drawings shall be an approval of the method of construction and design, but shall not relieve this contractor from the responsibility for errors, dimensions, etc.

Setting drawings shall be furnished prior to delivery of material at the building. Each and every piece of terra cotta shall be marked for setting, and diagrams with corresponding marks showing the location for each piece in the building shall be furnished to the General Contractor and to the Architect.

I 4 MODELS

This Contractor shall submit to the Architect for approval, models or photographs of models of all ornamental work before proceeding to mould the terra cotta. On completion of the work all models and moulds shall be destroyed.

I 5 SAMPLES

This Contractor shall submit to the Architect for approval, samples showing color and finish, and shall guarantee that the finished terra cotta will correspond with the selected sample. All exposed surfaces shall be (*a*).....

(*a*) *cream white, unglazed;– buff, matt glazed;– polychrome, full or lustrous glaze;– to match granite;– etc.*

I 6 MATERIALS AND WORKMANSHIP

All ornamental work, mouldings, etc., shall be accurately formed according to full-sized details or approved models. All mouldings shall be sharp, regular and true to line.

All terra cotta is to be of homogeneous clay, hard burned, of even texture, and free from kiln cracks or other defects. Chambers shall not exceed 6″; webs and shells shall not be less than 1-1/2″ thick. The surfaces must not chip or peel off and must be absolutely weatherproof. At the vertical joints the shell shall project sufficiently to allow for fitting and trimming. Each piece of terra cotta shall be provided with anchor holes.

Extra pieces of terra cotta shall be held ready to replace those that are imperfect in any way.

The backs of pieces where required shall be formed for receiving other work.

I 7 JOINTS AND RAGGLES

All joints shall be as indicated on drawings. Where joints are not practical as shown, or not indicated, the Contractor shall submit, for approval, drawings correcting the same, before executing the work. No mitered joints will be allowed. All exposed joints on weathered surfaces shall be raised, unless otherwise required. Raised parts shall be stopped at least 1″ back from the face of the mould or sill. Joints shall be of a uniform thickness of 3/16″. All horizontal and vertical joints shall be absolutely straight and true. Where necessary, joints are to be ground on a rubbing bed.

Where required to receive flashings, the terra cotta shall have a groove or raggle.

I 8 BONDING

All projecting courses shall have a depth of bed at least equal to the greatest projection, and in no case less than 4″.

I 9 ANCHORING

This Contractor shall furnish a complete schedule of anchors, hangers, rods, clamps, etc., which may be required to support or anchor the terra cotta. This schedule shall specify clearly all sizes, shapes, materials and methods of workmanship required. The Contractor for "IRON AND STEEL" shall provide whatever is called for by this schedule.

J 2
2

ERECTING

This Contractor shall erect all iron and steel work unless otherwise specified. He shall do all cutting and fitting of his work required for the accommodation of the work of other trades, furnish all appliances, tools, derricks, and scaffolds, and all other materials required to carry out this contract in the most rapid and thorough manner.

For painting of iron and steel work to be set by other sub-contractors see under "PAINTING," pages 181 and 183.

IRON AND STEEL

J 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this part is required to refer especially thereto.

J 2/1 ERECTING

The iron and steel work herein specified or shown on drawings shall be supplied by this Contractor. It will be set by other sub-contractors.

J 3 SHOP DRAWINGS

This Contractor shall prepare at his own expense shop drawings and details of all the work covered by his contract. These drawings shall be submitted in duplicate to the Architect for his approval.

J 4 PAINTING AT SHOP

All iron and steel shall be carefully and thoroughly cleaned at the shop from dirt, rust, and scales, and given one coat of paint before shipment. Paint shall be (*a*).....

(*a*) *name of brand.*

J 5 PAINTING AFTER ERECTION

After erection an additional coat of paint of different color from that used at the shop shall be applied by this Contractor.

J 6 BUILDER'S IRON

Provide all anchors, clips, ties, bolts, and all other usual and necessary carpenter's and mason's building iron.

J 7 ANCHORING FOR TERRA COTTA

Provide all structural steel work shown on drawings for supporting terra cotta. Any other anchors, hangers, rods, clamps, etc., which may be required to support or anchor terra cotta are to be supplied under a separate estimate in accordance with a schedule to be furnished by the Contractor for terra cotta.

J 8
2

REINFORCEMENT FOR CONCRETE

Provide reinforcement for all reinforced concrete in accordance with (*a*).....

(*a*) *name of reinforcing system;– detail drawings.*

J 12
2

STRUCTURAL STEEL

Provide and set structural steel where shown, of size and shape indicated on drawings. Steel shall be in accordance with the most recent "Standard Specifications for Structural Steel for Building" by the American Society for Testing Materials, and shall be framed and set according to standard shop and field practice. All beams shall have bearings and bearing plates of standard size.

J 8/1 REINFORCEMENT FOR CONCRETE

Provide reinforcement for all reinforced concrete as shown on drawings. Unless otherwise indicated, all rods shall be square twisted steel.

J 9 BOLTS FOR WALL PLATES

Provide 1/2″×2′ bolts for all wall plates and sills, with nuts and washers complete. These are to be spaced not more than 5′ on centers.

J 10 JOIST HANGERS

Provide (*a*)..... joist hangers or stirrups for carpentry work as required under the heading "CARPENTRY."

(*a*) *name of brand;– approved.*

J 11 JOIST ANCHORS

Provide approved joist anchors for every fourth joist resting on masonry walls.

J 12/1 LINTELS

Provide steel lintels for openings No. (*a*)..... of size marked on drawings. These will be set by Mason.

(*a*) *number shown on drawings.*

J 13 LALLY COLUMNS

Provide Lally columns of sizes shown on drawings, with caps and bases complete, including all anchor-bolts, lag-screws, etc., which may be required.

J 14 BEAMS OVER CESSPOOL

Provide two 8″ I-beams to support cover of cesspool.

J 15 DAMPERS

Provide (*a*)..... throat and damper for (*b*)..... fireplace; to be set by Mason.

(*a*) *name of brand, type and size.*
(*b*) *Living Room;– Dining Room;– etc.*

J 16 CLEANOUTS

Provide 10″×12″ cast iron cleanout door and frame for (*a*).....; to be set by Mason.

(*a*) *smoke flues;– ash-pits.*

J 17 ASH-DUMPS

Provide cast iron ash-dump and frame, for fireplace hearth in (*a*).....; to be set by Mason.

(*a*) *Living Room;– Dining Room;– etc.*

J 18 COAL-CHUTE

Provide (*a*)..... coal-chute where indicated; to be set by Mason.

(*a*) *name of brand.*

J 19 HINGED AREA GRATINGS

Construct area gratings where shown, of flat iron bars set on edge, as follows: (*a*)..... The whole shall be hinged to a frame of 3″×3″ angle irons anchored to masonry and provided with hasp and suitable brass padlock.

(*a*) *bars 1/4″×1″, spaced 1-1/2″ o. c., frame 3/8″×1″;– bars 1/4″×1-1/4″, spaced 1-1/4″ o. c., frame 1/2″×1-1/4″;– etc.*

J 20 FIXED AREA GRATINGS

Construct area gratings where shown, of flat bars set on edge, as follows: (*a*)..... The whole shall be supported on wall of area by (*b*).....

(*a*) *bars 1/4″×1″, spaced 1-1/2″ o.c., frame 3/8″×1″;– bars 1/4″×1-1/4″, spaced 1-1/4″ o.c., frame 1/2″×1-1/4″;– etc.*
(*b*) *four 2″×1-1/2″ angles, each 2″ wide, rivetted to frame of grating;– 3″ extensions of frame.*

J 21 PIPE RAILING

Provide (*a*)..... galvanized iron pipe handrail with substantial (*b*)..... for (*c*)..... as shown.

(*a*) *1-1/2″;– 2″;– etc.*
(*b*) *wall brackets;– uprights.*
(*c*) *stairway area;– etc.*

J 22
2

ORNAMENTAL IRON

This Contractor shall allow the sum of (*a*)..... for ornamental wrought iron (*b*)..... as shown on drawing.

(*a*) *estimated cost.*
(*b*) *railing to front steps;– balcony;– brackets;– etc.*

J 22
1

ORNAMENTAL IRON

Provide ornamental wrought iron (*a*)..... as shown, of sizes indicated on drawing.

(*a*) *railing to front steps;– balcony;– brackets;– etc.*

J 23

CHIMNEY STRAP

Provide wrought iron strap for chimney in accordance with detail drawing.

K 5 / 2 ZINC WORK

All flashings, counter-flashings and all other sheet metal work, wherever specified or where usual or necessary to make the work water-tight, shall be No. 12 gauge zinc, unless otherwise specified.

K 5 / 3 COPPER WORK

All flashings, counter-flashings, and all other sheet metal work, wherever specified or where usual or necessary to make the work water-tight, shall be 16-oz. hot-rolled copper, unless otherwise specified.

K 5 / 3-1 LEAD COUNTER-FLASHING

All counter-flashing shall be sheet lead, weighing 3 lbs. per square foot.

SHEET METAL AND ROOFING

K 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto. All work must be done in the neatest and best manner, and left free from rubbish, clean and perfect upon completion.

K 2 SHEET METAL INCLUDED

This Contractor shall provide and apply all sheet metal work, including all flashings, all metal gussets, all gutters, rain conductors, devices for hanging and connecting same, and all other sheet metal work as specified or as required to complete the work.

K 3 ROOFING INCLUDED

This Contractor shall provide and apply all (*a*)..... roofs as specified or shown on drawings or as may be necessary to make the work complete.

(*a*) *slate;– tile;– patent shingle;– slag;– patent roofing;– etc.*

K 4 GUARANTEE

This Contractor shall guarantee all roofs and flashings to be water-tight and perfect for a period of (*a*)..... years, and shall make good without cost to the owner any damage caused by leakage during that period.

(*a*) *two;– five;– ten.*

K 5 / 1 TIN WORK

All flashings, counter-flashings, and all other sheet metal work, wherever specified or where usual or necessary to make the work water-tight, shall be of (*a*)..... tin unless otherwise specified.

In soldering tin work, rosin only is to be used as a flux. All tin shall be painted on both sides before laying, with iron oxide, Venetian red, or metallic brown, and pure linseed oil.

(*a*) *I. X. thickness, 40 lbs. coating, name of brand;– I. C. thickness, full weight, prime plate;– etc.*

K 6 FLASHING

All chimneys and vertical masonry walls extending above roofs shall have step flashing not less than 8″ high, and counter-flashing extending 4″ into walls. The lower edge of counter-flashing shall be kept 3″ above roof.

K 7 DOOR AND WINDOW FLASHING

The heads and jambs of all exterior doors and windows shall be flashed, and a metal pan placed under (*a*).....

(*a*) *all sills;– sills of dormers;– door to balcony;– etc.*

K 8 HALF-TIMBER FLASHING

The tops of all horizontal or sloping members in half-timber work shall be flashed.

K 9 VALLEYS

All flashings for valleys shall extend not less than 7″ on each side of center line of valley. All metal roofing which joins a roof of another material shall be carried under the latter for at least 8″. All valleys or angles where vertical surfaces meet the roof shall be flashed with flashing woven in between the courses of the roofing.

K 10 GUSSETS

Gussets behind chimneys, and wherever else required, shall be covered with the same material as specified for flashing.

K 11 LINED GUTTERS

Gutters formed by Carpenter shall be lined with the same material as specified for flashing. The metal lining shall be laid on tar paper and shall extend 10″ under the roofing. All joints shall be securely formed and soldered solid on both sides for the full width of the gutter.

K 12 PORCH FLOOR GUTTERS

All porches with closed parapets shall have gutters sunk at the edge of the floor as shown. These shall be properly pitched to drain, and lined as specified above.

For cast iron rain conductors see under "PLUMBING," page 201.

K 17
2

COPPER ROOFING

Cover (*a*)..... with 16-oz. hot-rolled copper, laid with (*b*)..... seams, secured by nailing through cleats locked in the seams every 8″. All nails and rivets coming in contact with copper shall be copper and of ample size.

(*a*) *deck roof;– dormer windows;– bay windows;– porches;– etc.*
(*b*) *flat;– standing.*

K 17
3

BARRETT SLAG ROOFING

Cover all roofs so indicated on drawings with Barrett roofing, type (*a*)....., laid in accordance with the most recent Barrett specifications for use over (*b*).....

(*a*) *"AA";– "A".*
(*b*) *wood;– concrete.*

K 17
4

SLAG ROOFING

Cover all roofs so indicated on drawings with a (*a*)..... ply roof of 14-lb. tarred felt and straight run American coal-tar pitch, using (*b*)..... lbs. of pitch and 400 lbs. gravel or 300 lbs. slag for each 100 sq. ft. of finished roof.

(*a*) *3;– 4;– 5.*
(*b*) *68;– 90;– 112.*

K 13 SPOUTING

All gutters, rain conductors, and material for fastening and connecting the same, shall be (*a*)..... to be approved by the Architect.

Large globe-shaped (*b*)..... wire baskets shall be provided for all openings into rain conductors.

(*a*) *best No. 26 gauge galvanized iron;– No. 24 gauge copper-bearing galvanized iron;– 16-oz. cold-rolled copper;– "Horse Head" rolled zinc or equal;– Hoyt's hard lead or equal;– etc.*

(*b*) *galvanized;– copper.*

K 14 HANGING GUTTERS

All hanging gutters shall be supported on approved adjustable (*a*)..... hangers, placed (*b*).....

(*a*) *malleable iron;– cast bronze;– etc.*

(*b*) *2′ 6″ on centers;– 3′ on centers;– on every third rafter;– etc.*

K 15 RAIN CONDUCTORS

Provide and set rain conductors where shown. Conductors shall be (*a*)..... properly secured.

All bends and connections shall be made without abrupt angles, with goose-necks and elbows of ample size.

Conductors shall be properly connected to gutters and to (*b*).....

(*a*) *2″×3″ plain;– 3″×4″ corrugated;– 3″ round;– etc.*

(*b*) *turnouts of same material;– terra cotta drains;– cast iron shoes provided under the heading "PLUMBING."*

K 16 CONDUCTOR HEADS AND STRAPS

Conductors shall have ornamental heads with capping, and straps, all according to detail drawings.

K 17 / 1 TIN ROOFING

Cover (*a*)..... with I. C. thickness (*b*)..... tin, each sheet stamped with brand and thickness, laid with (*c*)..... seams, secured by nailing through cleats locked in the seams. The cleats shall be spaced (*d*)..... apart. All flat seams shall be locked together and well soaked with solder; rosin only is to be used as a flux. At the edge of the roof the roofing shall be turned under to form a drip of double thickness, and shall be securely nailed on the face of the woodwork.

(*a*) *deck roof;– dormer windows;– bay windows;– porches;– etc.*

(*b*) *40 lbs. coating, name of brand;– 30 lbs. coating, name of brand.*

(*c*) *flat;– standing.*

(*d*) *8″;– 12″.*

For shingle roofs see under "CARPENTRY," page 113.

K 22 / 2 TILE ROOFS

Cover all sloping roofs, unless otherwise specified or indicated, with (*a*)..... tile, including approved starters, ridges, etc., as shown on drawings, all to match in color and texture sample in Architect's office. All tile shall be secured with large-headed (*b*)..... nails.

(*a*) *name of brand, finish, color and type.*
(*b*) *galvanized iron;– copper clad;– copper.*

K 22 / 2-1 TILED VERTICAL SURFACES

Tile for vertical surfaces shall be plain shingle tile to match other roofing tile in color and texture.

K 22 / 3 PATENT ROOFING

Cover all sloping roofs (*a*)....., unless otherwise specified or indicated, with (*b*)....., put on in strict accordance with the specifications of the manufacturer.

(*a*) *all sides of dormers;– vertical walls above roof;– pent eaves;– etc.*
(*b*) *brand of patent roofing.*

K 18 TRAP-DOOR

Cover the sides and edges of the trap-door and curb where shown on drawings with (*a*).....

(*a*) *I.C. thickness, 40 lbs. coating, name of brand, tin;– 16-oz. hot-rolled copper;– patent roofing as for roof;– etc.*

K 19 ROOFING PAPER

Under all tin roofs lay one thickness of tar paper weighing 14 lbs. per 100 sq. ft. This shall be put on horizontally and well lapped. It shall be carried across all hips and shall lap over all valleys.

K 20 PAINTING

All tin roofs shall be given a coat of iron oxide, Venetian Red, or metallic brown, and pure linseed oil. Paint before laying, apply another coat of the same immediately after laying, and a final coat two weeks later.

K 21 ROOFING FELT

Under all (*a*)..... roofs lay one thickness of heavy tarred felt weighing 32 lbs. per 100 sq. ft. This shall be put on horizontally and well lapped. This felt shall be carried across all hips, shall be doubled under all valleys and lapped over them for 4″, and under all flashings at least 6″.

(*a*) *slate;– tile;– etc.*

K 22 / 1 SLATE ROOFS

Cover all sloping roofs (*a*)..... unless otherwise specified or indicated, with (*b*).....slate similar to approved samples, of the following dimensions: (*c*)..... Slate shall be laid with 3″ head lap. Each slate shall be secured with two large-headed (*d*)..... nails.

(*a*) *sides of dormers;– vertical walls above roof;– pent eaves;– etc.*
(*b*) *name of brand and type.*
(*c*) *thickness, 3/16″;– 1/4″;– 1/2″;– 3/4″;– graduated from 3/16″ to 1″;– etc*
length, 18″;– 20″;– 22″;– graduated from 14″ to 28″;– etc.
width, 6″;– 10″;– random;– etc.
(*d*) *galvanized iron;– copper clad;– copper;– etc.*

K 23/2 MITERED HIPS

All hips shall have slates cut to shape, and be laid close, with flashing for each course.

K 23/2-1 MITERED RIDGES

All ridges shall be mitered, laid in roofer's cement with proper flashing beneath.

K 23
1

BOSTON HIPS

Boston hips shall be used throughout, unless otherwise specified.

K 24

CLOSED VALLEYS

Valleys shall be closed. The flashings shall be put on with each course of slate, the courses being laid to carry through, even on surfaces of different pitch.

K 25

SNOW GUARDS

Provide and set as directed (*a*)..... snow guards.

(*a*) *name of brand and type.*

K 26

EXTERIOR TILE FLOORING

Cover the floor of (*a*)..... with (*b*)..... layers of 14-lb. tarred roofing felt and straight run American coal-tar pitch. Upon this spread a layer of hot asphalt and lay (*c*)..... tile as shown on drawings. The joints shall be grouted with a rich grout and the whole cleaned with burlap on completion.

(*a*) *Main porch;– Loggia;– Terrace;– etc.*
(*b*) *4;– 5.*
(*c*) *1″×6″×9″ "promenade";– etc.*

K 27

CANVAS ROOFING

Cover the floor of (*a*)..... with (*b*)..... roofing canvas. The canvas shall be laid in a heavy coat of wet white lead, stretched tight, lapped 1-½″ and secured to the flooring by 1″ flat-headed copper nails, not more than ¾″ apart. The outside edges shall be carried over and nailed to the facework, and the inside edges carried up 6″ behind (*c*)..... After laying, the canvas shall be wet thoroughly, and as soon as dry, painted with one coat of white lead and linseed oil. Another coat of paint shall be given on completion of the work, the color to be approved by the Architect.

(*a*) *Porch;– Loggia;– etc.*
(*b*) *brand and quality.*
(*c*) *siding;– base board;– shingles;– etc.*

K 28
2

SKYLIGHTS

Provide and set (*a*)..... skylights as shown on drawings. These shall be complete in all respects according to the standard details of the manufacturer, and properly adapted to the construction of the building.

(*a*) *number, size, name of brand and type.*

K 28
1

SKYLIGHTS

Build skylights where indicated, according to drawings. The skylights shall be glazed with 1/4″ ribbed wire glass, and the woodwork covered with (*a*)..... and joined in a water-tight manner to the body of the roof.

(*a*) *16-oz. copper;– I. X. tin, 40 lbs. coating;– etc.*

K 29

SCUPPERS

Provide and set, where indicated on drawings, (*a*)..... scuppers, in accordance with the instructions of the manufacturer, or as directed by the Architect.

(*a*) *name of brand, material, and size.*

K 30

GALVANIZED LINING

Cover the inner face of the doors and the linings of (*a*)..... with copper-bearing galvanized iron. The seams shall be securely locked wherever possible.

(*a*) *clothes-chute;– dumb-waiter shaft;– etc.*

K 31

ZINC LINING

Cover the inner face of the doors, and the linings of (*a*)..... with zinc, well soldered at the joints.

(*a*) *larder-cupboards;– etc.*

K 32

ZINC COVERINGS

Cover (*a*)..... in (*b*)..... with heavy sheet zinc, turned down over the edges, and tacked to the under side of the woodwork with copper escutcheon pins.

(*a*) *drain boards;– dresser tops;– counter;– shelves;– splash boards over sink;– etc.*
(*b*) *Kitchen;– Pantry;– etc.*

K 33

ASH-CHUTE AND CAN

Supply and set in the basement where designated, a heavy galvanized iron ash-can with cover. Also supply and set a heavy galvanized iron pipe of suitable size to carry ashes from the kitchen range to the ash-can. This pipe shall be connected with the ash-pit in the range at one end, and at the other pass through an opening in the cover of the ash-can.

L 3/2

METAL LATH

All interior walls and ceilings, unless otherwise specified, shall be lathed with (*a*)..... metal lath weighing 3.4 lbs. per square yard, properly stiffened, tightly stretched and secured with galvanized staples. The ceiling lath shall be turned down on to the side walls for a distance of 4″.

(*a*) *name of brand and type, painted or galvanized.*

For patent wall board see under "CARPENTRY, UNFINISHED PARTITIONS," page 141.

PLASTER WORK

L 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

The Contractor for this part of the work shall carefully examine all ceilings, partitions, and furring, and if these are not perfectly plumb, level, and solidly secured at all angles, he shall notify the Carpenter and have all such defects remedied before the lathing is commenced.

He shall provide all necessary labor and material, including scaffolding, etc., he shall do all work in the neatest and best manner, and on completion shall remove all rubbish and leave the work clean and perfect.

After the work of all other mechanics is finished, he shall replaster all damaged portions of his work.

L 2 SAMPLES

Samples of all finish, other than hard white finish, shall be made for the Architect's approval of color and texture, and remade until satisfactory.

L 3/1 WOOD LATH

Sound, seasoned spruce or hemlock lath, free from knots or bark, shall be used throughout, except where otherwise specified. Lath shall be spaced 3/8″ apart with joints broken at every eighth lath, and shall be well nailed to every bearing. No vertical lathing will be permitted. No lath shall be continuous through partitions.

L 4 INCIDENTAL METAL LATH

(*a*)..... metal lath, weighing 3.5 lbs. per square yard, properly stiffened, tightly stretched, and secured with galvanized staples, shall be used to cover all ducts and chases, (*b*)..... and across all joints between frame and masonry construction. The lath shall be carried 6″ on each side of the joint.

(*a*) *name of brand and type;– painted or galvanized.*
(*b*) *all walls that are to be tiled;– for moulded plaster beams;– cornices;– etc.*

L 6/2

PATENT PLASTER

All plaster, except where otherwise specified, shall be (*a*)..... patent plaster, applied in strict accordance with the manufacturer's direction.

(*a*) *name of brand.*

L 5 CORNER BEADS

(*a*)..... galvanized corner beads shall be used for all external angles, unless otherwise specified or indicated on drawings.

(*a*) *name of brand;– an approved brand of.*

L 6/1 LIME PLASTER UNDERCOATS

All plaster, except where otherwise specified, shall be made of well-burned lime thoroughly slacked and properly cured and strained through a 1/4″ mesh screen, clean sharp sand and best long hair. The hair shall be well beaten, soaked and thoroughly mixed with the other ingredients just before the plaster is used.

The proportions of the first coat shall be:—1/2 bushel of hair, 1 barrel of lime, 2 barrels of sand.

The first coat shall be pressed on with sufficient force to secure a good clinch, and scratched thoroughly. When it is well set the second coat shall be applied. The proportions of the second coat shall be:—1/2 bushel of hair, 1 barrel of lime, 6 barrels of sand.

The second coat shall be put on to form a perfectly plumb and true surface with sharp and square angles.

L 7 SMOOTH-FINISH COAT

The smooth-finish coat shall be composed of lime putty strained through a screen of 100 meshes to the square inch, mixed with a small proportion of white sand, and gauged with plaster of Paris. This coat shall be troweled to an even, straight and burnished surface, free from all chips, cracks or other defects.

L 8 SAND-FINISH COAT

The sand-finish coat shall contain a large proportion of clean sharp sand sifted through a screen of 100 meshes to the square inch, and such coloring matter as may be necessary to give the tint required by the Architect. This coat shall be floated with a cork float to an unbroken surface of even color, free from all marks or discolorations.

L 9 KEENE'S CEMENT PLASTER

Keene's cement shall be (*a*)....., put on (*b*)..... to produce a hard burnished surface, in strict accordance with the manufacturer's directions and specifications.

(*a*) *name of brand.*
(*b*) *in three coats;– as a finish coat.*

L 11/2 EXTERIOR FINISH COAT

The finish coat shall be of (*a*)..... colored prepared stucco, applied according to the manufacturer's specifications and finished (*b*)..... to the approval of the Architect.

(*a*) *name of brand.*
(*b*) *rough cast;– stippled;– Travertine finish;– with crushed stone or clean pebbles dashed against the mortar and pressed in with a wooden trowel;– etc.*

L 11/3 EXTERIOR FINISH COAT

The proportions of the finish coat shall be:—1 part (*a*)..... white Portland cement, 2 parts sand.

Add just enough lime putty to make the mortar work easily and finish (*b*)..... to the approval of the Architect.

(*a*) *name of brand;– an approved brand of.*
(*b*) *rough cast;– smooth;– etc.*

L 10 EXTERIOR CEMENT PLASTER

All exterior cement plaster shall be (*a*)..... coat work of the following composition;—1 part (*b*)..... Portland cement, 3 parts clean sharp sand and 1 part lime putty.

The scratch coat shall be ½″ thick, heavily cross scratched and allowed to become thoroughly dry before the next coat is applied. The finish coat shall not be applied within a week of the preceding one.

(*a*) *2;– 3.*
(*b*) *name of brand;– of an approved brand of.*

L 11/1 EXTERIOR FINISH COAT

The finish coat shall have such coloring matter added as the Architect may direct, and shall be finished (*a*)..... to the approval of the Architect.

(*a*) *rough cast;– stipple;– Italian brush finish;– with crushed stone or clean pebbles dashed against the mortar and pressed in with a wooden trowel;– etc.*

L 12 THREE-COAT WORK

All interior walls and ceilings, including soffits of stairs, closets, etc., unless otherwise specified or indicated on drawings, shall be lathed and plastered with three coats of plaster. The finish shall be (*a*).....

(*a*) *smooth, hard, white finish throughout;– sand finish on walls and ceilings of first floor;– etc.*

L 13 TWO-COAT WORK

The ceiling of basement shall be given two coats of plaster floated to a smooth finish.

L 14 KEENE'S CEMENT WORK

Keene's cement plaster shall be used for (*a*).....

(*a*) *walls of Bathroom No. — to a height of 4′ 6″;– walls and ceilings of Bathrooms;– Kitchen;– Pantry;– etc.*

L 15 PREPARATION FOR TILE

Apply Portland cement mortar under the direction of the Contractor for tile work, as preparation for tile walls in (*a*).....

(*a*) *Bathroom No. —;– Kitchen;– etc.*

L 16 EXTERIOR PLASTER WORK

All exterior walls (*a*)..... shall be plastered with two coats of cement plaster.

(*a*) *where indicated on drawings;– porch ceilings;– cove to entrance hood;– soffit of pent eaves;– etc.*

L 17 ROUNDED CORNERS

All projecting angles (*a*)..... shall have corners rounded with (*b*)..... radius as directed.

(*a*) *of window jambs;– in hallways;– unless otherwise specified;– etc.*
(*b*) *3/4″;– 2″;– etc.*

L 18 CEILING COVE

The ceiling of (*a*)..... shall have a cove of 3″ radius of heavily gauged plaster.

(*a*) *Bathroom No. —;– Kitchen;– etc.*

L 19 CORNICE

The ceiling of (*a*)..... shall have a plaster cornice run according to the detail drawings.

(*a*) *Living Room;– Dining Room;– etc.*

L 20 ORNAMENTAL CAST PLASTER

This Contractor shall allow the sum of (*a*)..... for cast plaster (*b*)..... where shown on drawings. This material shall be set by this Contractor in a workmanlike manner, and be left in perfect condition.

(*a*) *estimated cost.*
(*b*) *pilasters;– capitals;– brackets;– cartouches;– ceiling ornaments;– etc.*

For metal lath provided by other contractors see under "PLASTER AND STUCCO," pages 84 and 85.

MARBLE AND TILE

M 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

Unless otherwise specified, all materials shall be of first quality, and shall be set in a first-class manner by skilled mechanics. A certificate of quality and quantity from the manufacturer shall be furnished to the Architect. All work shall be carefully cut and fitted around pipes and fittings, and on completion shall be cleaned off, care being taken to protect all metal work. All completed work must be adequately protected from injury, immediately after setting.

M 2 MORTAR

The scratch coat for tile work shall be composed of 1 part Portland cement, 4 parts bar sand, and 1/10 part lime paste. The setting coat shall be 1 part Portland cement, 3 parts bar sand, and only enough lime paste to permit using. The setting coat shall be dusted with cement according to the custom of the trade. The color of joints shall be as selected by the Architect. For white tile the joints shall be grouted with white Portland cement.

M 3 METAL LATH

All walls that are to receive tile work shall be covered by this Contractor with B–26 gauge metal lath, properly set at corners and at floor to insure against cracks in the bedding cement.

M 4 MARBLE STEPS

Provide and set, where shown on drawings, steps of (*a*)..... marble, with 1-1/4″ treads, 7/8″ risers, and all details in accordance with drawings.

(*a*) *name of brand, color, etc.*

M 5 MARBLE FLOOR

Provide and set, where shown on drawings, floor of (*a*)..... marble, 7/8″ thick, of pattern indicated.

(*a*) *name of brand, color, etc.*

M 6 MARBLE WAINSCOT

Provide and set, where shown on drawings, wainscot of (*a*)..... marble, according to detail drawings.

(*a*) *name of brand, thickness, color, etc.*

M 7 TERRAZZO FLOOR

Cover the sub-floor of (*a*)..... with one thickness of tar paper, well lapped. On this place a 2″ bed of plain concrete, with (*b*)..... dividers embedded in it in accurate accordance with the drawings, and with top edges level with the finished floor. When the underbed has been hardened sufficiently, spread the terrazzo aggregate 3/4″ thick, composed of 2 parts marble granule and 1 part Portland cement, all of color to be approved by the Architect. Roll and trowel in the best manner and when set rub the surface smooth, grout with cement to fill all holes, and surface with a fine stone to a true and smooth finish.

(*a*) *Sun porch;– Vestibule;– Kitchen;– etc.*
(*b*) *name of brand, zinc, brass.*

M 8 TILE WORK

Provide and set tile as follows:–
(*a*).....
The patterns of tile work shall be as shown and directed.

(*a*)

LOCATION	*TYPE*	*BRAND*	*COLOR*	*SIZE & SHAPE*
Porch floor,	*encaustic,*	.....	*red,*	*9″ quarry.*
Vestibule walls,	*faience,*	.....	*gray,*	*3″×6″.*
Vestibule 4′ 6″ wainscot,	*glazed,*	.....	*polychrome,*	*4″ square.*
Lavatory floor,	*ceramic,*	.....	*white,*	*1″ hexagonal.*
Kitchen 6″ base,	*encaustic,*	.....	*buff,*	*straight base.*
Bathroom No. —				
floor,	*vitrified,*	.....	*as detailed,*	*3/4″×3/4″.*
4′ 6″ wainscot,	*glazed,*	.....	*as detailed,*	*as detailed.*
etc.	*etc.*	*etc.*	*etc.*	*etc.*

M 12
2

MARBLE SHOWER ENCLOSURE

Provide and set in (*a*)....., where indicated on drawings, shower enclosure of (*b*)..... white marble 7/8″ thick, running from the floor (*c*)..... The stiles shall be 1-1/4″ thick, treads and risers 7/8″ thick, rabbeted to receive lead pan specified under the heading "PLUMBING." This Contractor shall provide all usual and necessary nickel-plated hardware.

(*a*) *Bathroom No. —;– etc.*
(*b*) *name of brand, polished, etc.*
(*c*) *to ceiling;– 6′ 6″ high;– etc.*

M 12
3

STRUCTURAL GLASS SHOWER ENCLOSURE

Provide and set in (*a*)..... where indicated on drawings, shower enclosure of (*b*)....., in accordance with the specifications of the manufacturer. The enclosure shall run from the floor (*c*).....

(*a*) *Bathroom No. —;– etc.*
(*b*) *name of brand of structural glass.*
(*c*) *to ceiling;– 6′ 6″ high;– etc.*

M 9 SPECIAL SHAPES

Wainscot in (*a*)..... shall have special shaped tile for caps and bases, plinths, angles, etc., to be selected by the Architect.

(*a*) *Bathroom No. —;– Vestibule;– etc.*

M 10 MARBLE THRESHOLDS

Provide and set approved white marble threshold strip where indicated on drawings. Thresholds shall be 7/8″ thick with rubbed finish.

M 11 MARBLE SILLS

Provide and set, where indicated on drawings, approved white marble window sills with finished edges and corners. Sills shall be 1-1/4″ thick with polished finish.

M 12 / 1 METAL SHOWER FRAME

Build 1″ channel frame partition for tile shower enclosure in (*a*)....., as shown on drawings. This shall be securely bolted at corners, at floor, and to partition walls, and shall be covered with B–26 gauge metal lath on both sides of channels.

(*a*) *Bathroom No. —*

M 13 TILE SHOWER ENCLOSURE

Line shower enclosure in (*a*)..... with tile specified for the bathroom walls, rising from the floor (*b*)....., with risers, treads, and stiles as indicated.

(*a*) *Bathroom No. —*
(*b*) *to ceiling;– 6′ 6″ high;– etc.*

M 14
2

MARBLE SHOWER RECEPTOR

Provide and set in (*a*)....., shower-bath receptor of (*b*)..... white marble 2″ thick, sloped to center, and countersunk to receive drain.

(*a*) *Bathroom No. —;– etc.*
(*b*) *name of brand.*

M 14
3

PORCELAIN SHOWER RECEPTOR

Set porcelain shower-bath receptor in (*a*)..... provided under the heading "PLUMBING."

(*a*) *Bathroom No. —;– etc.*

For brick hearths see under "BRICKWORK," page 51.

For cement hearths see under "CONCRETE," page 41.

M 14
1

TILE SHOWER RECEPTOR

Build in (*a*)..... tile receptor for shower-bath, of (*b*)..... tile.

(*a*) *Bathroom No. —;– etc.*
(*b*) *3/4″ white hexagon, vitrified finish, etc.*

M 15

SHOWER ENCLOSURE DOOR

Provide and set in (*a*)....., where indicated on drawings, (*b*)..... plate glass door with nickel frame, for shower-bath enclosure.

(*a*) *Bathroom No. —;– etc.*
(*b*) *name of brand.*

M 16

FIREPLACES

Provide and set fireplace hearths and facings according to detail drawings, as follows:–

(*a*).....

(*a*)

LOCATION	*MATERIAL & BRAND*	*COLOR*	*SIZE & SHAPE*	*FINISH*
Living Room				
outer hearth,	*Italian marble,*	*selected,*	.....	*putty polish.*
inner hearth,	*1-1/4″ soapstone,*			
facing,	*Italian marble,*	*selected,*	*as detailed,*	*putty polish.*
lining,	*iron backs and jambs,*			
mantel,	*Italian marble,*	*selected,*	*as detailed,*	*putty polish.*
Dining Room				
outer hearth,	..... *Co.* *faience tile,*	*selected,*	*3″×3″*	
inner hearth,	..... *Co.* *plastic tile,*	*selected,*	*3″×3″*	
facing,	..... *Co.* *faience tile,*	*selected,*	*as detailed.*	
lining,	*provided under "BRICKWORK."*			
mantel,	*supplied by Carpenter.*			
etc.	*etc.*	*etc.*	*etc.*	*etc.*

M 17 KITCHEN HEARTH

Provide and set hearth of (*a*)....., for kitchen range.

(*a*) *9″×9″ red quarry tile;– 1″ slate, rubbed finish;– etc.*

M 18 EXTERIOR ORNAMENTAL TILE

Provide and set, where indicated on drawings, designs of frostproof (*a*)..... tile, of color and shapes as shown on detail drawings.

(*a*) *plastic;– faience.*

M 19 SLATE PAVING

Provide and set, as indicated on drawings, paving for (*a*)..... of (*b*)..... slate, averaging from 1-1/4″ to 1-3/4″ in thickness, and of sizes and shapes indicated. The slate shall be laid on a 3″ bed of plain concrete with cement joints.

(*a*) *Main porch;– main entrance path;– etc.*
(*b*) *name of brand and color.*

M 20 SLATE PATHS

Provide and set, as indicated on drawings, paths of (*a*)..... slate, averaging from 1-1/4″ to 1-3/4″ in thickness and of sizes and shapes indicated. The slate shall be laid directly on earth with wide top soil joints.

(*a*) *name of brand and color.*

CARPENTRY AND MILLWORK

N 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor of this portion of the work is required to refer especially thereto.

The Carpenter shall furnish all rough or dressed lumber and all millwork. Unless otherwise specified he shall furnish and set all centers, templates, bracing, etc., required for the masonry work. These centers shall be well stiffened and strong enough to carry the weights they support without deformation. They must be accurately formed to the required shapes and must be left in place until ordered removed by the Architect.

He shall furnish Georgia Long-leaf Yellow Pine or other approved lintels of proper depth and length, for all openings in every kind of masonry, except those spanned by arches having the full thickness of the wall, or by steel or reinforced concrete lintels.

He shall provide all necessary wood blocks, nailing strips, plugs, door and window bucks, etc., and see that they are built in as required by other Contractors for their work, as the work progresses.

He shall cut and frame timbers and woodwork as required by the various other trades for the completion of their work, and provide all lumber required by them for scaffolding or for the protection of finished work unless otherwise specified.

He shall furnish and erect temporary doors and sash with panels of heavy muslin, glass or wood, to keep out the weather, and shall put the building under lock and key as soon as possible.

N 2 MATERIALS

All materials required, herein specified or shown on drawings, shall be the best of their respective kinds. All shall be thoroughly seasoned or kiln-dried, and shall be thoroughly protected from the weather after leaving the kiln.

N 3 ROUGH LUMBER

All framing timber and rough carpentry shall be of the best quality (*a*)..... unless otherwise specified, free from loose or large knots, large shakes, excess sap, or other defects whereby its strength may be impaired.

(*a*) *spruce;– hemlock;– North Carolina pine;– etc.*

N 4 SPECIAL TIMBERS

All (*a*)..... shall be of Georgia Long-leaf Yellow Pine, or other approved timber.

(*a*) *girders;– posts;– trusses;– sills;– etc.*

N 5 LUMBER SIZES

The sizes and spacing of lumber, unless otherwise shown on drawings, shall be in accordance with the following schedule:–

(*a*).....

(*a*) *MEMBER*	*SIZE*	*SPACED ON CENTERS*
Sills on masonry	4″× 6″	
Plates on frame walls	4″× 4″	
Plates on masonry	3″× 8″	
Porch plates	(2) 3″×10″	
Girders	(3) 3″×12″	
Studs for bearing partitions	3″× 4″	16″
Studs for closet partitions	2″× 3″	16″
Studs for partitions containing 4″ soil pipes	2″× 6″	16″
Corner posts	4″× 6″	
Stud bridging	2″× 3″	
Partition sills	2″× 4″	
Partition caps	2″× 4″	
Joists, first floor	3″×12″	16″
Joists, second and third floors	3″×10″	16″
Loft joists	2″× 8″	16″
Porch floor joists	2″×12″	16″
Ceiling joists	2″× 6″	24″
Floor bridging	1″× 2″	
Roof rafters	2″× 8″	24″
Porch rafters	2″× 6″	24″
Dormer rafters	2″× 6″	24″
Hips, valleys and ridges	2″×10″	
Collar beams	1″× 6″	*one to each rafter*
Ledger boards	1″× 8″	
Horses, front stairs	3″×12″	*four lines to a run*
Horses, rear stairs	3″×12″	*three lines to a run*
Landing joists	3″× 6″	16″

N 9
2

SOUND-PROOF PARTITIONS

Sound-proof partitions, where indicated on drawings, shall have (*a*)..... deadening felt and 7/8″×2″ furring strips nailed to one side of the studs.

(*a*) *name of brand.*

N 10
2

JOIST HANGERS

All joists framing into girders shall be hung on (*a*)..... provided under the heading "IRON AND STEEL."

(*a*) *name of brand of hangers or stirrups.*

N 6 FRAMING

All members shall be accurately and substantially fitted together and the whole structure shall be well braced at all points.

In no case shall any timber come within 2″ of the face of any chimney.

Plates and sills shall be halved together at all corners and splices.

N 7 BOLTING PLATES AND SILLS

Plates and sills resting on masonry shall be secured with 1/2″×2′ bolts with suitable washers and nuts, spaced not more than 5′ on centers. Bolts are provided under the heading "IRON AND STEEL."

N 8 STUD WALLS AND PARTITIONS

Studs in walls and partitions shall be doubled at all corners and openings, and shall be bridged once in the middle of each story height. Bridging must set back 1/2″ from the face of the studs to leave a key for the plaster.

Wherever a partition comes directly over one in the story below, the upper stud shall rest upon the cap of the lower partition and not upon the joists. All other partitions shall rest upon sills.

All partitions shall have caps which shall be secured to outside walls. When joints are necessary, the caps shall be halved together with splices 10″ long which shall come directly over bearings. When cut for any cause, they shall be strapped on both sides with iron straps to form a continuous tie.

All partitions shall be trussed over openings 4′ or more in width. Truss also wherever partitions are not supported by walls or partitions below.

N 9 / 1 SOUND-PROOF PARTITIONS

Sound-proof partitions, where indicated on drawings, shall be built of double rows of 2″×3″ studs separated by (*a*)..... deadening felt.

(*a*) *name of brand.*

N 10 / 1 JOIST CLEATS

All joists framing into girders shall be carried on 2″×3″ strips spiked to the sides of the girders.

N 11 JOIST FRAMING

Joists shall be doubled around all openings, and under all partitions that are not supported by partitions below.

Joists shall have double herring-bone bridging cut to fit and spiked with two nails at each end of each piece. There shall be one row in the center of all 6′ to 12′ spans, and an extra row for each extra 6′ of span or fraction thereof.

Joists resting on masonry walls must have at least a 4″ bearing. All blocking up must be done with slate.

N 12 HANGERS FOR HEADERS

All headers 4′ in length or over, and all joists framing into such headers, shall be hung on (*a*)..... hangers provided under the heading "IRON AND STEEL."

(*a*) *name of brand;– approved.*

N 13 FIRE CUTS

All joists built into masonry walls shall have the ends cut on a bevel.

N 14 ANCHORS

Where joists rest upon masonry walls, every fourth one shall be secured by an approved anchor provided under the heading "IRON AND STEEL."

N 15 RAFTERS

Rafters shall be notched over wall plates and well spiked. They shall be thoroughly braced to resist any horizontal movement. Rafters shall be doubled at all openings.

N 16 COLLAR BEAMS

Where no ceiling joists are provided, there shall be one collar beam to each rafter.

N 17 SHEATHING FOR WALLS

All (*a*)..... shall be covered with 7/8″×6″ matched (*b*)..... sheathing dressed on one side, put on diagonally, nailed to every bearing, and breaking joints at every third board.

(*a*) *frame walls;– brick veneered walls.*
(*b*) *North Carolina pine;– hemlock;– spruce;– etc.*

N 18 SHEATHING FOR ROOFS

All (*a*)..... shall be covered with 7/8″×6″ matched (*b*)..... sheathing, dressed on one side, nailed to every bearing, and breaking joints at every third board.

(*a*) *roofs unless otherwise specified;– sides of dormers;– etc.*
(*b*) *North Carolina pine;– hemlock;– spruce;– etc.*

N 19 SHEATHING FOR VALLEYS

Where so indicated, sheathing shall be blocked out to form closed valleys rounded on a radius as shown on detail drawings.

N 20 SHEATHING FOR SLAG ROOFS

Sheathing under slag roofs shall be secret-nailed and carefully planed to remove all projections.

N 21 GUSSETS

Build suitable gussets wherever shown or necessary for proper drainage.

N 22 STOP-GUTTERS

Form stop-gutters as shown on drawings, properly grading them to the outlets.

N 23 TILE ROOF STRIPS

Provide and set a continuous strip of 7/8″ material for each row of roofing tile, and standing boards of 2″ material for all hips and ridges.

N 24 SHEATHING PAPER

All outside frame walls, including all overhangs, cheeks of dormers, etc., shall be covered with (*a*)..... sheathing paper, well lapped, and turned in at all openings.

(*a*) *name of brand;– heavy resin-sized;– etc.*

N 25 ROOFING PAPER

All sheathing on roofs shall be covered with (*a*)..... sheathing paper, laid in horizontal strips lapped 2″ and well nailed.

(*a*) *name of brand;– heavy resin-sized;– etc.*

N 26 SHINGLE-LATH

All shingle roofs shall be covered with best 7/8″ ×2″ (*a*)..... shingle-laths, laid two to each course of shingles, with open joints.

(*a*) *spruce;– North Carolina pine;– hemlock;– etc.*

N 29
2

MITERED HIPS

All hips shall have shingles cut to shape and be laid close with flashing for each course.

N 30
2

COMBED RIDGES

All ridges shall be laid with top and combing courses on one side lapping the top and combing courses on the opposite side.

N 31
2

CLOSED VALLEYS

Roofs shall have closed valleys with flashing under each course of shingles.

N 27 EXTERIOR FURRING

Fur for all exterior plaster on frame walls with 7/8″×2″ furring strips 16″ on centers, nailed vertically over sheathing boards and paper.

N 28 SHINGLES

All (*a*)..... unless otherwise indicated or specified, shall be covered with (*b*)..... shingles, free from sap and knots, of the following dimensions:—(*c*).....

Shingles shall be doubled (*d*).....

(*a*) *walls;– roofs;– sides of dormers;– pent eaves;– etc.*

(*b*) *name of brand and grade;– cypress;– cedar;– etc.*

(*c*)

LOCATION	*LENGTH*	*WIDTH*	*WEATHERING*
Roof	*24″*	*4″;– 6″*	*8″*
Wall	*20″*	*random*	*10″*
	etc.	*etc.*	*etc.*

(*d*) *at eaves;– every fifth course;– etc.*

N 29 / 1 BOSTON HIPS

Boston hips shall be used throughout, unless otherwise specified.

N 30 / 1 RIDGE BOARDS

All ridges shall have 7/8″ ridge boards, laid in long lengths and tightly fitted.

N 31 / 1 OPEN VALLEYS

Roofs shall have open valleys, the shingles lapping the valley flashings not less than 6″ on each side.

N 32 SIDING

All exterior frame walls where indicated on drawings shall be covered with best clear (*a*)..... The siding shall be laid with 1-1/2″ lap, closely butted at all joints and well nailed to every bearing with sixpenny nails countersunk for puttying. Siding shall be (*b*)..... at corners.

(*a*) *cypress beveled siding, with 7/8″ butt;– 8″ white pine clapboards, with 1/2″ butt;– etc.*

(*b*) *mitered;– shiplapped;– butted against 1-1/8″×4″ corner boards;– etc.*

N 33 SLEEPERS

Lay 2″×3″ sleepers 16″ on centers, in all fireproof floors, to be covered with finished flooring. Sleepers shall have fortypenny nails driven in both edges at 12″ intervals, or approved floor-clips to anchor them to the concrete. They shall be laid and secured in place by the Carpenter before the filling is placed.

N 37
2

PREPARATION FOR COMPOSITION FLOORING

Prepare for composition floors, wherever indicated or specified, by laying a wood floor of 7/8″ × 6″ matched material, free from loose knots, laid with rough side up and securely nailed.

N 34 UNDER-FLOORING

Lay 7/8″×6″ matched (*a*)..... under-flooring (*b*)..... Under-flooring shall be surfaced on one side, laid diagonally and well nailed. All joints shall be properly broken, shall come over bearings, and shall be closely butted.

(*a*) *North Carolina pine;– spruce;– hemlock;– etc.*
(*b*) *throughout first floor;– etc.*

N 35 LOFT FLOOR

Lay floor where indicated in loft, of 7/8″×6″ matched boards surfaced on one side.

N 36 FLOOR FOR CANVAS DECK

Lay floor for canvas deck, of 13/16″×2-1/2″ matched (*a*)..... flooring where indicated on drawings. Flooring shall be planed where necessary to remove all projections.

(*a*) *No. 3 North Carolina pine;– etc.*

N 37 / 1 PREPARATION FOR TILE FLOORS

Prepare for tile floors, wherever indicated or specified, by laying narrow 7/8″ boards on cleats nailed to the sides of floor joists, so that the top of these boards comes 3″ below the top of the joists. Bevel the top of the joists on both sides.

N 38 SOUND-PROOF FLOOR

Sound-proof floor, where indicated on drawings, shall be built with (*a*)..... deadening felt and 7/8″×2″ sleepers between underflooring and finished floor.

(*a*) *name of brand and type;– approved.*

N 39 INSULATING FLOOR

Lay 7/8″ boards on cleats between floor joists (*a*)..... to be filled in with (*b*).....

(*a*) *over porch;– under bay window;– etc.*
(*b*) *mineral wool;– mortar, as provided under the heading "MASONRY."*

N 40 FLOOR PAPER

After the plastering is completed, the underfloors shall be swept clean, rapaired, leveled, and covered with a layer of approved building paper laid close with butt joints and no lap.

N 41 / 2 SPECIAL FLOORING

Finished floors in (*a*)..... shall be (*b*).....

(*a*) *Living Room;– Entrance Hall;– first floor;– etc.*
(*b*) *3/8″×1-1/2″ tongue and grooved clear quartered white oak, in average lengths of 5′, not more than 20 per cent to be under 4′;– etc.*

N 41 / 3 COMPOSITION FLOORING

Floors (*a*)..... shall be of (*b*)..... patent composition flooring applied in strict accordance with the manufacturer's directions, of color to be approved by the Architect.

(*a*) *where shown on the drawings;– in Kitchen, Pantry, Bath Room No. —.*
(*b*) *name of brand.*

N 41 / 4 FLOORS NOT INCLUDED

Finished floor (*a*)..... is to be (*b*)..... flooring furnished and installed under a separate contract.

(*a*) *where marked on drawings;– in Library;– in Ball Room;– in Bathroom No. —;– etc.*
(*b*) *parquetry;– cork;– composition;– etc.*

N 46 / 2 NAILING STRIPS

Provide 3/8″×4″ Yellow Pine nailing strips for securing furring to masonry walls. Strips are to be run horizontally and spaced 24″ on centers.

N 41/1 FINISHED FLOORING

All finished floors, unless otherwise specified, shall be (*a*)..... All finished flooring shall be in long lengths with joints properly broken. It shall be forced up tight and securely nailed. Where necessary to give access to pipes, the flooring shall be screwed down in sections.

(*a*) *13/16"×2-1/2", tongued and grooved, rift-sawed, No. 1 North Carolina pine;– etc.*

N 42 BORDERS

Lay neatly mitered borders, as shown on drawings, of the same material as the finished floor, around all fireplace hearths, (*a*).....

(*a*) *and around walls in Living Room, Dining Room, etc.*

N 43 THRESHOLD STRIPS

Lay threshold strips (*a*)..... They shall be of the same material as the adjacent floors and shall have their ends cut to the profile of the trim.

(*a*) *where indicated on plan;– at all closets;– where there is a change in the direction or character of flooring;– etc.*

N 44 PLANING FLOORS

All finished floors, unless otherwise specified, shall be planed where necessary to make them smooth and level.

N 45 SCRAPING FLOORS

All finished floors (*a*)..... shall be scraped around the edges before the base boards are set, and planed, scraped, and sandpapered after all other work is done, leaving them absolutely clean, level, and smooth for the painter's finish.

(*a*) *in Living Room;– in Dining Room;– throughout;– etc.*

N 46/1 METAL NAILING PLUGS

Provide (*a*)..... metal wall-plugs for fastening woodwork to masonry walls, and see that they are securely built in, in the proper places.

(*a*) *name of brand.*

N 47 WALL FURRING

Fur the inner side of all masonry walls that are to receive finished plaster work, with 7/8″×2″ furring strips spaced 16″ on centers.

N 48 CHIMNEY FURRING

Fur around all chimneys where shown, with 2″×3″ studs set flat, not more than 16″ on centers. This furring must be kept 1″ clear of the masonry. No nails shall be driven into the masonry.

N 49 FURRED CEILINGS

Frame and fur ceilings where so indicated on drawings.

N 50 CROSS FURRING

Cross fur the ceiling of (*a*)..... with 7/8″×2″ furring strips spaced 16″ on centers.

(*a*) *Living Room;– Dining Room;– etc.*

N 51 FURRING FOR SPECIAL PLASTER WORK

Block and fur for all interior special plaster work, where so indicated on drawings.

N 52 GROUNDS

Provide and set 7/8″ grounds for plastering and for securing millwork. Base boards shall have top and bottom grounds.

N 53 PIPE CLEATS AND COVERS

Provide and set planed boards for the attachment of exposed pipes, and build cover boards for pipe chases, wherever directed. The covers shall be fastened with screws to permit of easy access to the pipes.

N 54 COAL BINS

Build coal bins in basement where indicated, of 2″×4″ studs and 7/8″ boards, running to height of 5′. Openings shall be arranged with removable slide boards.

N 55 COLD-AIR DUCTS

Construct cold-air duct where shown on drawings, of 7/8″ matched and planed boards. The duct shall cover the window opening and extend along the ceiling to the furnace. The inside dimensions shall be (*a*)..... The duct shall be furnished with a slide damper and a hinged door.

(*a*) *12″×24″;– 20″×30″;– etc.*

N 56 SCUTTLE

Build in the roof, where indicated, a scuttle having a 2″ plank frame and a substantial cover with drip. The cover shall be secured with hooks and galvanized hinges having brass pins.

N 57 TRAP-DOOR

Build a hatchway to loft where indicated, with trap-door and frame. The door shall be secured with galvanized iron hinges and hooks.

N 58 LADDER

Build, where indicated on drawings, a substantial ladder with treads housed into the strings.

N 59 FOLDING STAIRWAY

Provide and build in where indicated, in accordance with the directions of the manufacturer, a (*a*)..... folding stairway suspended from the ceiling.

(*a*) *name of brand, type, and number.*

N 60 CELLAR WAY

Provide steps for the outside entrance to basement, having 2″×10″ treads and horses and no risers. Also furnish batten doors of 7/8″×2″ matched and V-jointed boards, with swing bar on the under side. The doors shall be hinged to 3″×10″ frame bolted to the walls. All material shall be Georgia Long-leaf Yellow Pine or other approved lumber.

N 61 BAFFLE-BOARDS

Provide 1-1/8″ Georgia Long-leaf Yellow Pine or other approved baffle-boards as shown on detail drawings, for septic tank. These will be installed by the Contractor for "CONCRETE."

N 62 DUMB-WAITER

Build dumb-waiter shaft as shown, with (*a*)..... doors, and line on the inside with 7/8″×2″ matched and planed boards which shall be varnished before being put in place. Install in the shaft a dumb-waiter with complete equipment. The dumb-waiter shall be (*b*).....

(*a*) *hinged;– counter-balanced.*
(*b*) *name of brand, number, size, etc.*

N 63 CLOTHES-CHUTE

Build clothes-chute with hinged doors as shown, and line with 7/8″× 2-1/2″ matched and planed boards.

For lining the clothes-chute with zinc see under "SHEET METAL AND ROOFING," page 83.

N 64 VARNISHED LINING

The lining of the clothes-chute shall be varnished before being put in place.

N 65 SLIDING DOOR POCKETS

Line all sliding door pockets with 7/8″×2-1/2″ matched and planed boards, painted with two coats of varnish before being put in place.

N 66 EXTERIOR WOODWORK

Window and door frames, and all other exterior woodwork, unless otherwise specified, shall be of the best quality, clear (*a*)..... free from knots, sap, or other defects. It shall be sandpapered smooth and left clean and perfect upon completion, ready for the painter's finish.

(*a*) *white pine;– cypress;– etc.*

N 67 PRIMING

All door and window frames shall be primed with one coat of white lead and oil before leaving the shop. This includes painting the backs and edges of the woodwork. Pulley stiles shall be oiled. All other exterior woodwork that is to receive paint shall be primed as soon as possible after being erected.

N 68 DETAILS

Unless particularly specified to the contrary, all exterior and interior millwork shall be (*a*).....

(*a*) *in strict accordance with detail drawings;– approved stock material.*

N 69 BARGEBOARDS

Bargeboards shall be of (*a*)..... thick, and of width shown on drawings.

(*a*) *cypress, 1-3/4″;– oak, 2-1/4″;– etc.*

N 70 SHOW-RAFTERS

Show-rafters shall be planed and have ends cut to pattern, as follows:–
(*a*).....

(*a*)	*Main eave*	*oak*	*3″×6″*	*24″ on centers*
	Front porch	*cypress*	*3″×6″*	*24″ on centers*
	Dormers	*white pine*	*2″×4″*	*20″ on centers*
	etc.	*etc.*	*etc.*	*etc.*

N 71 OUTLOOKERS AND BRACKETS

All outlookers and brackets shall be (*a*)..... cut according to detail out of solid timber.

(*a*) *6″ oak;– 4″ cypress;– etc.*

N 72 HALF-TIMBER

All material for half-timber work shall be of (*a*)..... thick, of widths shown on drawings, rabbeted at the edges to receive plaster. Half-timber work shall be mitered and rabbeted at corners according to detail.

(*a*) *cypress 7/8″;– oak 1-3/8″;– etc.*

N 73 SURFACE OF TIMBER

All half-timber work, brackets, bargeboards, etc., shall be (*a*)..... to show tool markings to the approval of the Architect.

(*a*) *adze dressed;– hand planed;– etc.*

N 74 PEGS

Pegs, where shown, shall be of oak, roughly formed according to detail.

N 75 DOOR AND WINDOW TRIM

Exterior door and window trim shall be 1-1/8″ thick, and of width as detailed.

N 76 LOUVRES

Form ventilation openings where shown, consisting of 1-1/8″ wood slats in 1-3/4″ frames, with inside door 1-1/8″ thick hinged at bottom, all in accordance with details. Cover the inside with 1/4″ mesh galvanized iron screen.

N 77 STEPS

Build wooden steps to (*a*)..... as shown on drawings. Horses shall be 2″×10″, treads 1-1/8″ (*b*)..... with rounded nosings, and risers 7/8″ (*c*).....

(*a*) *Side porch;– Kitchen porch;– etc.*
(*b*) *Georgia Long-leaf Yellow Pine;– etc.*
(*c*) *cypress;– white pine;– etc.*

N 78 OPEN RAILINGS

Open railings shall be built where shown on drawings, of design indicated, as follows:–

(*a*).....

Balusters shall be mortised into top rail and notched over bevel of bottom rail. All shall be well braced and stayed.

(*a*) *LOCATION*	*TOP RAIL*	*BOTTOM RAIL*	*BALUSTERS*	*POSTS*
Front porch	*3″×4″ built-up moulded*	*3″×3″ moulded*	*1-3/4″ turned*	*4″×4″ solid turned*
Kitchen porch	*2″×3″ rounded*	*2″×3″ beveled*	*1-1/8″ square*	*4″×4″ built-up square*
Balcony	*etc.*	*etc.*	*etc.*	*etc.*

N 79 LATTICE

Build lattice where shown on drawings, of design indicated. The lattice shall be formed of (*a*)..... pieces, the frame shall be (*b*).....

(*a*) *1/4″×1-1/8″;– etc.*
(*b*) *7/8″×4″;– etc.*

N 80 TRELLIS

Build trellis where shown on drawings, of design indicated. The trellis shall be formed of (*a*).....

(*a*) *7/8″×2″ slats and 2″×3″ uprights;– etc.*

N 81 PORCH WOODWORK

Build exterior columns, posts, beams, etc., where shown, according to detail, as follows:–

(*a*).....

(*a*) *LOCATION*	*SIZE*	*TYPE*	*MATERIAL*	*FACES*	*MOULDINGS*
Front porch;–					
pillars	*12″×12″*	*built up,*	*1-1/8″ white pine,*	*fluted,*	*moulded bases and caps.*
entablature	*12″×20″*	*built up,*	*1-1/8″ white pine,*	*moulded and paneled soffits,*	*ceiling - mould inside; cornice outside.*
Side porch;					
posts	*8″×8″*	*solid,*	*oak,*	*plain,*	*solid bracket.*
beams	*8″×10″*	*solid,*	*oak,*	*plain,*	*ceiling-mould.*
Kitchen porch;					
posts	*6″×6″*	*built up,*	*1-1/8″ cypress,*	*plain,*	*moulded cap, plain base.*
beams	*6″×8″*	*cased,*	*7/8″ cypress*	*plain,*	*ceiling-mould.*
etc.	*etc.*	*etc.*	*etc.*	*etc.*	*etc.*

For plaster ceilings and soffits see under "PLASTER AND STUCCO," page 91.

N 82 PORCH POSTS

All solid posts 8″×8″ or larger, shall have 2″ holes bored throughout the entire length.

N 83 COLUMNS

Porch columns shall be staved up and lock jointed (*a*).....

(*a*) *name of brand, type and number.*

N 84 PILASTERS

Pilasters shall be similar to columns in make and pattern.

N 85 CEILING OR SOFFITS

(*a*)..... shall be of 7/8″ tongue and grooved (*b*).....

(*a*) *Porch ceilings;– soffit of eaves;– soffit of hood;– etc.*
(*b*) *V-jointed cypress;– beaded North Carolina pine;– etc.*

N 86 BED MOULDS

All ceilings and soffits shall have bed-moulds according to details.

N 87 EXTERIOR CORNICE

Build cornice to (*a*)..... as indicated, according to details.

(*a*) *main roof;– dormers;– front porch;– etc.*

N 88 HOOD

Build hood over (*a*)..... as indicated, according to details.

(*a*) *front entrance;– etc.*

N 89 SEATS

Build exterior seats where shown on drawings, of (*a*)..... according to details. The back shall be (*b*)..... The ends shall be (*c*).....

(*a*) *oak;– cypress;– etc.*
(*b*) *7/8″ matched and V-jointed boards with top strip;– 1-3/4″ square balusters with top and bottom rail;– 7/8″×2″ slats, 4″ on centers, with top and bottom rail;– etc.*
(*c*) *1-3/4″ material;– shaped arms on square legs;– etc.*

N 90 ANCHOR IRONS

All exterior frames in masonry walls shall be anchored with at least four iron anchors. Frames over 6′ high shall have six anchors.

For metal cellar windows see under "METAL CASEMENTS," page 171.

N 91 HINGED CELLAR WINDOWS

Hinged cellar windows shall have (*a*)..... heads and jambs, and (*b*)..... sills of Georgia Long-leaf Yellow Pine or other approved material, rabbeted for sash and screens according to detail drawings. The sash shall be 1-3/8″ clear white pine. The screens shall be 1-3/8″ clear white pine fitted with 1/2″ mesh galvanized iron screen.

(*a*) *2″;– 2-1/2″.*
(*b*) *2-1/2″;– 3″.*

N 92 DOUBLE-HUNG WINDOWS

Double-hung windows shall have pulley stiles and parting strips of Georgia Long-leaf Yellow Pine or other approved material. All other parts of the frame shall be of the best quality clear (*a*)..... All sash shall be of the best quality clear white pine. Frames and sash shall be built accurately according to detail drawings, of the following size members:–

(*b*).....

(*a*) *white pine;– etc.*

(*b*) *Sills,*	*2″;– 2-1/2″;– 3″.*
Pulley stiles,	*7/8″;– 1-1/8″;– 1-3/8″.*
Yoke,	*7/8″;– 1-1/8″.*
Outside casing,	*7/8″;– 1-1/8″.*
Inside casing,	*7/8″.*
Parting strip,	*1/2″.*
Back lining,	*7/8″.*
Sash in Basement,	*1-3/8″.*
Sash above Basement,	*1-3/8″;– 1-3/4″.*
Staff mould,	*1″×2″;– 2″×2″.*

N 93 BOX HEADS

Double-hung windows, where indicated on drawings, shall have box heads lined with 7/8″ matched and planed boards, painted with two coats of paint before being put in place.

N 94 DOUBLE-HUNG WINDOW HARDWARE

All double-hung sash shall be hung with weights of proper size and weight and (*a*)..... cord. Pulleys shall be (*b*)..... with 2″ wheel for sash 2′ 6″ or less in width, and 2-1/2″ wheel for sash over 2′ 6″ in width. A sample pulley shall be given to the mill-man for fitting to the frame, but the pulleys are not to be put in until the sash are hung.

(*a*) *name of brand.*
(*b*) *name of brand and type;– of approved pattern.*

For metal casements see under "METAL CASEMENTS," page 171.

N 95 CASEMENT WINDOWS

Casement windows shall have (*a*)..... heads and jambs and (*b*)..... sills of Georgia Long-leaf Yellow Pine or other approved material, rabbeted for sash and screens according to detail drawings. The staff mould shall be (*c*)..... Sash shall be (*d*)..... clear white pine according to detail drawings.

(*a*) *2";– 2-1/2";– etc.*
(*b*) *2-1/2";– 3".*
(*c*) *2"×2";– cut on solid.*
(*d*) *1-3/8";– 1-3/4".*

N 96 TRANSOMS

Opening (*a*)..... shall have (*b*)..... clear white pine sash (*c*)..... with (*d*)..... transom bar, according to detail drawings.

(*a*) *No. of opening;– above front door;– etc.*
(*b*) *1-3/8";– 1-3/4".*
(*c*) *hinged at bottom;– pivoted;– fixed;– etc.*
(*d*) *2";– 2-1/2";– etc.*

N 97 MULLIONS

Opening No. (*a*)..... shall have mullions of (*b*)..... material rabbeted to receive sash, according to detail drawings.

(*a*) *No. of opening.*
(*b*) *2";– 2-1/2";– 3";– etc.*

N 98 FIXED SASH

Fixed sash shall be (*a*)..... clear white pine according to detail drawings.

(*a*) *1-3/8";– 1-3/4".*

N 99 SHOW-SILLS

All windows, where shown on drawings, shall have show-sills according to detail drawings.

N 100 WEATHER STRIPPING

All exterior doors and windows (*a*)..... shall be fitted with (*b*)..... weather strip, and be guaranteed absolutely weather-tight.

(*a*) *on 1st story;– throughout;– etc.*
(*b*) *name of brand.*

N 107
2

DOOR AND WINDOW SCREENS

All window and door screens will be provided and installed under a separate contract.

N 101 METAL RUBBING STRIPS

Provide and set metal rubbing strips for the sills of exterior doors and French casements.

N 102 STORM SASH

Provide storm sash, where indicated, of 1-3/8″ clear white pine as shown on drawings.

N 103 SHUTTERS OR BLINDS

Where shown on drawings, windows shall have 1-3/8″ outside shutters or blinds of design indicated according to detail drawings.

N 104 PORCH FRAMES

Provide and set wood frames of 2″ material for exterior openings, where indicated on drawings. These frames shall be rabbeted for sash and screens.

N 105 PORCH SASH

Provide and set porch sash for all openings where indicated on drawings. Sash shall have stiles, rails, and muntins, according to drawings, all of clear white pine.

N 106 PORCH SCREENS

Provide and set porch screens for all openings, where indicated on drawings. Screens shall have frames of (*a*)..... clear white pine and be fitted with 16-mesh bronze insect wire.

(*a*) *1-1/8″;– 1-3/8″.*

N 107
1 DOOR AND WINDOW SCREENS

All windows and exterior doors shall be fitted with 16-mesh bronze wire screens set in (*a*)..... frames. All screens shall have (*b*)..... runs.

(*a*) *1-1/8″ wood;– name of brand.*
(*b*) *wood;– approved metal;– name of brand.*

N 108 DOOR FRAMES

Exterior door frames shall be (*a*)..... of Georgia Long-leaf Yellow Pine or other approved material, rabbeted for doors and screens. The staff mould shall be (*b*).....

Interior door frames shall be of (*c*)..... material to match the adjacent trim, with stop-bead (*d*).....

(*a*) *1-3/4";– 2";– 2-1/2";– 3".*
(*b*) *2"×2";– cut on solid.*
(*c*) *7/8";– 1-1/8".*
(*d*) *worked on;– nailed on.*

N 109 DOORS

Doors shall be of the following thickness, material, and construction:–
(*a*).....

All doors, unless otherwise specified, shall match the adjacent trim. All paneled doors shall have mouldings cut on the solid.

(*a*) *LOCATION*	*SIZE*	*THICKNESS*	*MATERIAL*	*TYPE*
Front door	*3'×6' 10"*	*2-1/2"*	*quartered oak,*	*glazed, solid, raised panels.*
Exterior doors	*2' 10"×6' 10"*	*2"*	*white pine,*	*solid, raised panels.*
French casement doors	*(2) 2'×6' 10"*	*1-3/4"*	*white pine,*	*glazed, solid.*
Sliding doors	*(2) 3'×6' 8"*	*1-3/4"*	*mahogany veneer,*	*built up, raised panels.*
Dumb-waiter and clothes-chute doors	*2'×3'*	*1-1/8"*	*N. C. pine,*	*flat panels.*
Ironing-board closet door	*12"×5' 0"*	*1-1/8"*	*N. C. pine,*	*flat panels.*
Plumbing door	*18"×24"*	*1-1/8"*	*white pine,*	*raised panel.*
Door No.—	*2' 8"×6' 8"*	*2"*	*quartered oak veneer,*	*circular head, carved panels.*
Passage doors	*2' 8"×6' 8"*	*1-3/8"*	*birch veneer,*	*built up, 6-panel.*
Closet doors	*2' 6"×6' 8"*	*1-3/8"*	*cypress,*	*solid, 5-panel.*
etc.	*etc.*	*etc.*	*etc.*	*etc.*

N 110 STOCK DOORS

All doors (*a*)..... shall be (*b*)..... stock doors.

(*a*) *throughout;– above first floor;– except doors No. —.*
(*b*) *name of brand;– approved.*

N 111 GLAZED DOORS

All glass in interior doors shall be secured by loose mouldings unless otherwise detailed.

N 112 SLIDING DOORS

Sliding doors shall have 3/8″ rubbing strips on both sides.

N 113 MIRROR DOORS

Door No. (*a*)..... shall have mouldings for full-length mirror on one side.

(*a*) *number shown on drawings.*

N 114 SLAT DOORS

Provide doors with 1/2″ slats for the full height of the door opening, for doorways No. (*a*).....

(*a*) *number shown on drawings*

N 115 ICE DOOR AND FRAME

The opening in the wall by the refrigerator shall have a 1-3/8″ paneled door, with frame of 1-3/8″ head and jambs, and 2″ sill, all according to drawings.

N 116 FIREPROOF DOORS

Fireproof doors, where shown on drawings, shall be built up of two thicknesses of 7/8″ matched boards covered with tin, in accordance with the regulations of the National Board of Fire Underwriters.

N 117 GARAGE DOORS

Garage doors shall be batten doors, built up of 7/8″ V-jointed matched boards secured with (*a*)..... battens, as shown on detail drawings.

(*a*) *1-3/8″ rabbeted;– 7/8″;– etc.*

N 118 INTERIOR PAINTED WOODWORK

All interior painted woodwork, trim, doors, shelving, etc., unless otherwise specified, shall be (*a*)..... free from knots, sap, or other defects.

(*a*) *white pine;– poplar;– etc.*

N 119 INTERIOR STAINED WOODWORK

Interior stained woodwork shall be as follows:–

(*a*).....

(*a*) *LOCATION*	*MATERIAL*
Library	*quartered oak*
Billiard Room	*chestnut*
Kitchen	*North Carolina pine*
Dining Room	*white pine, birch sub-base and stool*
elsewhere	*cypress*
etc.	*etc.*

N 120 WOOD CARVING

All carved ornament, where indicated, is to be done by an approved wood carver from models furnished by him for the Architect's approval.

N 121 SPECIAL CARVING

"Special Carving" is not included in this contract, but where it is so marked on drawings, this Contractor shall furnish the material shaped in the rough and deliver it to the Carver. The Carver shall return it to the building when finished, and this Contractor shall build it in place.

N 122 SETTING

No interior woodwork shall be set until finished coat of plaster is thoroughly dry.

N 123 UNFINISHED PARTITIONS

Where partitions or closets are shown in unfinished parts of the house, they shall be sheathed on walls and ceilings with (*a*)..... and finished with a quarter-round moulding at floor and ceiling.

(*a*) *brand of patent wall board;– 7/8" matched and planed boards;– etc.*

N 124 VENTILATION

Provide and set (*a*)..... cast iron registers in the (*b*)..... ceiling, where shown on plan. The registers shall be operated by chain pulls.

(*a*) *two 12"×15";– etc.*
(*b*) *third floor;– etc.*

N 125 CUT-OUT BOX

The cut-out boxes for electric system, wherever indicated, shall have paneled doors and trim corresponding to the trim of the adjacent windows. This shall be made and installed by the Carpenter to the approval of the Electrical Contractor.

For pantry sinks and drain boards covered with sheet metal see under "PLUMBING, SCHEDULE OF FIXTURES," page 211.

N 126 KITCHEN DRAIN BOARDS

Provide and set grooved straight-grained ash drain board, 1-3/4″ thick, as indicated on drawings, for kitchen sink. It shall be supported by approved metal brackets. No woodwork shall touch the sink.

N 127 PANTRY DRAIN BOARDS

Provide and set drain board for pantry sink of 1-3/8″ ash. This shall continue as a frame around pantry sink and shall have apron and moulding, all as shown on drawings.

N 128 COUNTER-SHELF AND LARDER-CUPBOARD

Build counter-shelf, where shown on drawings, of 1-1/8″ material according to details, to be covered with (*a*)..... provided by another Contractor. The counter-shelf shall be 3′ 0″ in height, fitted underneath with cupboards having paneled doors.

(*a*) *zinc;– plate glass;– etc.*

N 129 LARDER-CUPBOARD LININGS

Larder-cupboards shall be lined with zinc provided under the heading "SHEET METAL AND ROOFING."

N 130 DRESSERS

Build dressers according to details, where shown in (*a*)..... Dressers shall have cupboards in the upper part, finished with a moulding, and a counter-shelf fitted with cupboards and drawers below. The upper cupboards shall be carried to (*b*)..... The counter-shelf shall be 1-1/8″ (*c*)..... The rest of the material shall match the surrounding woodwork.

Drawers shall have fronts dove-tailed, and sides and bottoms rabbeted together.

Cupboards shall have no backs, but the space between counter-shelf and upper cupboards shall have a back of 2-1/2″ matched and V-jointed boards 7/8″ thick.

(*a*) *Kitchen;– Pantry;– Servants' Hall;– etc.*
(*b*) *ceiling;– a height of 7′ and continued to ceiling with lath and plaster;– etc.*
(*c*) *ash;– white pine;– etc.*

N 131 HANGING CUPBOARDS

The upper cupboards in (*a*)..... shall be hung from the joists above, with iron hangers provided by this Contractor, and shall have no wooden brackets.

(*a*) *Kitchen;– Pantry;– etc.*

N 132 CUPBOARD FITTINGS

The cupboards shall be fitted as follows:–

(*a*).....

(*a*) *LOCATION*	*SHELVES*	*DOORS*	*DRAWERS*
Pantry, upper	(*4*) *7/8″ movable*	(*4*) *1-1/8″ glazed, sliding*	.....
Pantry, lower	(*1*) *1-1/8″ fixed*	(*4*) *1-1/8″ paneled, hinged*	(*3*)
Kitchen, upper	(*5*) *7/8″ fixed*	(*4*) *7/8″ glazed, hinged*	.....
Kitchen, lower	(*2*) *1-1/8″ fixed*	(*4*) *7/8″ paneled, hinged*	(*2*) *hardwood slides*
larder cupboard	(*2*) *7/8″ fixed*	(*2*) *7/8″ paneled, hinged*	.....
etc.	*etc.*	*etc.*	*etc.*

N 133 BREAD BOARD

Build in (*a*)..... dresser a 1-1/8″ sliding bread board under counter-shelf.

(*a*) *Kitchen;– Pantry.*

N 134 SERVING WINDOW

Build where shown, according to detail, a serving window between kitchen and pantry; the opening shall be 20″ wide by 24″ high; the door shall be 1-1/8″ thick, (*a*)..... and counterbalanced. Build 1-1/8″ (*b*)..... shelf on (*c*)..... side.

(*a*) *paneled;– glazed.*
(*b*) *hinged drop;– fixed.*
(*c*) *Kitchen;– each.*

N 135 SERVING TABLE

Build serving table (*a*)..... and 3′ 0″ high, against wall where shown on drawings. The table shall have top hinged to drop, and support hinged at wall to swing out.

(*a*) *2′ 6″×2′ 0″;– etc.*

N 136 TABLE-LEAF CLOSET

Build, where shown, a cupboard of suitable size with paneled doors, for Dining Room table-leaves.

N 137 BOTTLE RACKS

Build bottle rack in wine closet according to details.

N 138 LINEN CLOSET

Build linen closets where shown, according to details. Linen closets shall have 1-1/8″ shelves, approximately 10″ apart, running to a height of 7′ from floor.

N 141
2

MEDICINE CABINET

Provide and set flush with the wall in (*a*)..... where indicated, *b*)..... medicine cabinet complete.

(*a*) *Bathroom No. —;– all bathrooms.*
(*b*) *name of brand;– type and size.*

N 139 LINEN CLOSET DRAWERS

Provide (*a*)..... drawers below the shelves. Drawers shall have fronts dove-tailed and sides and bottoms rabbeted together and shall run on (*b*)..... slides.

(*a*) *(3) 12";– (4) 15";– etc.*
(*b*) *hardwood;– brand of patent slides.*

N 140 SHELF DOORS

The shelves in linen closet shall have paneled doors 1-1/8" thick, the (*a*)..... upper ones hinged at the side and the (*b*)..... lower ones hinged at the bottom.

(*a*) *3;– 4;– etc.*
(*b*) *3;– 2;– etc.*

N 141 / 1 MEDICINE CABINET

Build medicine cabinet flush with the wall in (*a*)..... where indicated. The cabinet shall be (*b*)..... and 4" deep, with back and sides, and three movable glass shelves, all according to details. The door shall have a plate glass mirror on the outside. Mirror and shelves are provided under the heading "GLAZING."

(*a*) *Bathroom No. —;– all bathrooms.*
(*b*) *1' 6"×2' 0";– etc.*

N 142 WARDROBE

Build wardrobe according to details, in (*a*)....., of wood to match adjacent trim. Wardrobe shall be of size indicated on plan, with (*b*)..... doors opening the full width of the wardrobe. The fittings shall be as detailed, consisting of (*c*).....

(*a*) *Room No. —.*
(*b*) *sliding;– paneled;– hinged;– mirror;– etc.*
(*c*) *shoe rack at bottom, 4 drawers on patent slides, 2 shelves at top;– etc.*

N 143 CEDAR-LINED CLOSET

The walls, floor, ceiling, and inner face of door of cedar closet, where indicated on drawings, shall be lined with 3/8" Aromatic Red Cedar lining, matched on sides and ends. Lining shall be secret nailed directly to studs and rough flooring, over a layer of tar paper, with cedar quarter-rounds at angles.

N 144 CLOSET FITTINGS AND SHELVING

All shelving shall be as directed, but the arrangement given herein is approximately correct. Shelves shall be 7/8″ thick, smoothed on all sides, and supported on wall cleats. They shall run on one, two or three sides of the closet as indicated or directed. Hook strips shall be 7/8″×5″ with beveled edges. Hooks shall be placed approximately 8″ on centers.

Hanger rods shall be (*a*)..... supported on (*b*)..... flanges.

Closet fittings shall be as follows:–

(*c*).....

(*a*) *1/2″ galvanized iron pipe;– 3/4″ nickel plated brass rods;– 1-1/4″ hardwood;– etc.*

(*b*) *metal;– brass;– nickel-plated;– wood.*

(*c*) *LOCATION*	*NUMBER OF SHELVES*	*WIDTH OF SHELF*	*OTHER FITTINGS*
Basement:—			
Store Room.....	*5*	*2′ 0″*	
Milk Room	*5*	*2′ 0″*	
First floor:—			
Laundry closet.....	*5*	*12″*	
Larder, over counter...	*5*	*12″*	
Kitchen, over sink.....	*2*	*12″*	
Kitchen closet.....	*1*	*12″*	*Hook strip*
Pantry, over refrigerator	*2*	*12″*	
Side Hall.....	*1*	*12″*	*Hook strip*
Coat Room.....	*1*	*12″*	*Hook strip*
Second floor:—			
Bathroom No.—, closet.	*1*	*10″*	*Hook strip*
Hall closet.....	*5*	*12″*	
Broom closet.....	*2*	*10″*	*Hook strip*
all bedroom closets...	*2*	*12″*	*Hook strip, hanger rod and shoe rack*
Third floor:—			
Room No. —, closet...	*2*	*12″*	*Hook strip, hanger rod and shoe rack*
Maid's bedroom.....	*2*	*12″*	*Hook strip*
Bathroom No.—.....	..	..	*Hook strip*
Hall closet.....	*4*	*12″*	

N 145 DOOR AND WINDOW TRIM

All doors and windows, unless otherwise specifically noted, shall have wood trim made in strict accordance with the full size details. All architraves shall be mitered at corners. Trim shall be as follows:–

(*a*).....

(*a*) *LOCATION*	*ARCHI-TRAVE*	*PLINTHS*	*WINDOW STOOLS*	*CAPS*	*WINDOW APRONS*
Living Room *Library* *Bedroom No.–*	*7/8"×5", 2-piece moulded,*	*plinths*	*1-1/8" moulded,*	.....	*7/8" moulded.*
Dining Room	*7/8"×4-1/2", plain, round edges,*	.....	*7/8" rounded,*	*caps above trim*	*trim around entire opening.*
elsewhere	*7/8"×4", plain,*	.....	*7/8"×2-1/2" beveled,*	.....	*7/8"×2-1/2" beveled.*

N 146 STOP-BEADS

Stop-beads shall be 1/2", screwed to windows with screws and washers provided under the heading "HARDWARE."

N 147 RADIATOR RECESSES

At all radiator recesses, window trim shall be carried to the floor.

N 148 PLASTER JAMBS

Windows (*a*)..... shall have plaster heads and jambs.

(*a*) *in Living Room;– in Dining Room;– No. —;– etc.*

N 149 OPENINGS WITHOUT DOORS

All openings without doors, unless otherwise noted, shall have wood jambs and architraves to match adjacent door and window trim.

N 150 PANELED REVEALS

All wood reveals over 10″ wide shall be paneled as shown.

N 151 BASE BOARD

Provide and set in all rooms, halls, closets, etc., (*a*)..... base boards of material to correspond with adjoining trim. Base boards shall be as follows:–

(*b*).....

The sub-base shall be nailed to the floor and never to the base board.

(*a*) *except in Bathroom No. —;– Kitchen;– etc.*

(*b*) *LOCATION*	*THICKNESS*	*HEIGHT*	*CAP*	*SUB-BASE*
Dining Room *Library* *Bedroom No. —*	*7/8″ moulded,*	*10″*	*1-1/2″ moulded,*	*1-1/2″ moulded,*
elsewhere	*7/8″ plain,*	*8″*	*1/4 round,*	*1/4 round.*

N 152 PICTURE MOULDING

Provide and set securely a picture moulding in (*a*)..... at the height directed. The moulding shall be (*b*)..... of wood to correspond with trim.

(*a*) *all Bedrooms;– all rooms except Kitchen, Bathrooms, Closets;– etc.*
(*b*) *7/8″×2″ as detailed;– 1-1/2″ stock pattern;– etc.*

N 153 CHAIR RAIL

Provide and set a chair rail in (*a*)..... This shall be (*b*)....., set at height directed.

(*a*) *Kitchen;– Dining Room;– etc.*
(*b*) *3″×7/8″ plain white pine;– 4″×7/8″ birch, moulded with cap as detailed;– etc.*

N 154 SHOW-BEAMS AND SHAFTS

Provide and set special woodwork of material to match trim, in accordance with full size details, as follows:–

(*a*) . . . . . .

(*a*) *MEMBER*	*SIZE*	*TYPE*	*FACES*	*MOULDINGS*
Beams.				
Library;				
main beam	*8″×10″,*	*built up,*	*paneled,*	*7/8″×2″*
secondary beams	*4″×6″,*	*built up,*	*plain,*	*7/8″×2″*
wall beams	*4″×10″,*	*built up,*	*plain,*	*7/8″×2″*
Billiard Room;				
beams	*6″×8″,*	*solid,*	*plain,*	*7/8″×1-1/4″*
wall beams	*4″×6″,*	*solid,*	*plain,*	*7/8″×1-1/4″*
ingle beams	*8″×10″,*	*solid,*	*carved,*	*7/8″×1-1/4″*
Opening No. —;				
entablature	*as detailed,*	. . . .	*paneled soffit,*	*as detailed*
Pilasters, etc.				
Dining Room;				
pilasters	*2″×12″,*	*built up,*	*paneled,*	*cap*
Billiard Room;				
pilasters	*4″×8″,*	*solid,*	*plain,*	
posts	*8″×8″,*	*solid,*	*plain,*	
Opening No. —;				
pilasters,	*2″×10″,*	*built up,*	*fluted,*	*caps and bases*
columns,	*10″ round,*	*built up,*	*fluted,*	*caps and bases*

N 155 COLUMNS AND PILASTERS

Columns and pilasters shall be staved up and lock jointed with base, shaft, and capital, all in accordance with detail drawings.

N 156 BRACKETS

Provide and set brackets of material to match trim, and of design as detailed, under ends of (*a*) . . . . . These shall be (*b*) . . . . . and (*c*) . . . . . .

(*a*) *main Library beams;– beams for openings No. —;– etc.*
(*b*) *solid;– built up.*
(*c*) *carved by an approved Carver;– carved under separate contract;– moulded as detailed;– etc.*

N 157 INTERIOR CORNICE

Provide and set (*a*) . . . . . cornice in (*b*) . . . . . according to detail drawings.

(*a*) *wood;– composition.*
(*b*) *Living Room;– Dining Room:– etc.*

N 158 WALL PANELING

Provide and set paneling of material to match trim, as shown on drawings, and in accordance with details, as follows:–

(*a*).....

All rails and stiles shall be mortised together, no doweling will be permitted.

(*a*) *LOCATION*	*HEIGHT*	*STILES AND RAILS*	*PANELS*	*CONSTRUCTION*
Dining Room	*to ceiling*	*7/8″ chamfered*	*5/8″ plain*	*3-ply veneer*
Drawing Room	*8′*	*5/8″ plain*	*plaster*	
Hall	*3′ 6″*	*7/8″ moulded*	*5/8″ raised*	*solid*
etc.	*etc.*	*etc.*	*etc.*	*etc.*

N 159 MANTELS

Build mantels of material to match trim in (*a*)....., as shown on detail drawings and in accordance with full size details.

(*a*) *Living Room;– Dining Room;– etc.*

N 160 SPECIAL MANTELS

Mantels in (*a*)..... will be supplied by the owner but shall be set by this Contractor.

(*a*) *Music Room;– Library;– etc.*

N 161 BOOK-CASES

Build book-cases in (*a*)..... as shown, with moulded cap and base, and movable shelves 1-1/8″ thick, resting on (*b*)..... Book-cases shall have (*c*)..... backs.

(*a*) *Library;– Den;– etc.*
(*b*) *brand of patent shelf supports;– pins, with shelves countersunk to receive the same.*
(*c*) *flush panel;– V-jointed matched board;– no;– etc.*

N 162 BOOK-CASE DOORS

Book-case in (*a*)..... shall have glazed doors (*b*).....

(*a*) *Library;– Den;– etc.*
(*b*) *hinged at side;– to slide on brass tracks;– etc.*

N 163
2

CHINA CUPBOARD

Build china cupboard in (*a*)..... as indicated, and in accordance with details. Cupboard shall have 7/8″ movable shelves grooved for plates, and 1-3/8″ glazed door in upper part, and drawer and cupboard, with paneled doors and shelf, below.

(*a*) *Dining Room;–etc.*

N 163
1

CHINA CLOSET

Build china closet in (*a*)..... as indicated, and in accordance with details. Closet shall have 7/8″ movable shelves grooved for plates, and 1-3/8″ glazed door.

(*a*) *Dining Room;– etc.*

N 164

WINDOW SEATS

Build window seats in accordance with detail drawings as follows:–
(*a*).....

(*a*)	*LOCATION*	*BACK*	*SEAT*	*FRONT*
	Living Room	*raised paneled*	*1-3/8″ flush paneled*	*turned legs*
	Bedroom No.—	*flush paneled*	*1-3/8″ battened, hinged*	*flat panels*

N 165

RADIATOR ENCLOSURES

All radiators in (*a*)..... shall be enclosed with (*b*)..... as shown, in accordance with details.

(*a*) *Living Room;– Dining Room;– etc.*
(*b*) *paneling;– turned spindles;– lattice work;– etc.*

N 166

CANE REGISTER FACES

Register faces in (*a*)..... shall be of cane woven as for chair seats, according to the pattern detailed.

(*a*) *all radiator enclosures;– Library;– Music Room;– etc.*

N 167

REGISTER TRIM

Build removable wooden frames, wherever required for register faces, to match adjacent trim.

N 168 STAIRS

All stairs shall be built according to details, properly supported on carriages as specified. All treads shall have moulded nosings, with moulding below.

Treads and risers shall be tongued and grooved together, and both housed into the wall string. The whole shall be glued and wedged in the best manner.

Stair woodwork shall be as follows:–

(*a*).....

This Contractor shall properly protect all stair work and will be held responsible for its condition until the whole building operation is completed.

(*a*)	*MAIN STAIRS*	*REAR STAIRS*
Treads and platforms	*1-1/8″ plain white oak*	*1-1/8″ yellow pine*
Risers	*7/8″ white pine*	*7/8″ yellow pine*
Wall string	*1-1/8″ white pine*	*7/8″ yellow pine*
Outer string	*1-1/8″ white pine, open, carved*	*7/8″ yellow pine, closed*
Hand rails	*3-1/2″×4″ birch, moulded, with ramps and easings*	*3″×2-1/2″ yellow pine, closed, plain stock*
Return nosings	*birch*	
Balusters	*3 to a tread, white pine, turned*	*3-1/2″ on centers, yellow pine, 1-1/8″ square*
Starting newel	*5″ square, white pine, built up, paneled; birch cap, moulded*	*4″ square, yellow pine, moulded cap*
Secondary newels	*3″ turned, white pine, moulded caps*	
Post drops	*square moulded*	*turned*

N 169 CELLAR STAIRS

Cellar stairs shall have 7/8″ risers and 1-1/8″ treads of (*a*)..... Hand rail shall be (*b*)....., supported on (*c*).....

(*a*) *North Carolina pine;– yellow pine;– etc.*
(*b*) *2″×3″;– 1-1/2″ round;– etc.*
(*c*) *metal wall brackets;– 3″×4″ posts;– etc.*

O 2 / 2 FINISH HARDWARE

He shall allow the sum of (*a*)..... for all finish hardware such as butts, hinges, locks, etc., to be selected by the Architect and installed by this Contractor. The sum allowed for finish hardware does not include the cost of setting.

(*a*) *estimated cost.*

O 2 / 3 FINISH HARDWARE

All finish hardware will be furnished by the Owner to this Contractor, who shall give a receipt for all hardware as soon as delivered and shall immediately notify the Architect of any discrepancy from the invoice. All finish hardware shall be set by this Contractor.

HARDWARE

O 1 ROUGH HARDWARE

The Contractor for Carpentry shall furnish all rough hardware including all nails, screws, sash pulleys, sash weights, or similar fittings, and all other hardware mentioned in this specification as being provided under his contract. He shall take proper care of all hardware at the building and be responsible for all shortages.

O 2 / 1 FINISH HARDWARE

This Contractor shall furnish and set all finish hardware required to complete the building, in strict accordance with the following schedule.

The numbers given in the schedule refer to the hardware manufactured by (*a*).....

(*a*) *name of manufacturer.*

O 3 HARDWARE SCHEDULE

(*a*).....

(*a*) *LOCATION*	*CATALOG NO.*	*SIZE*	*FINISH*	*NO. REQUIRED*
Outside Cellar Door				
Hinges				
Bar pins				
Half staples				
Cellar Doors				
Butts				
Locks				
Rings and staples				
Bolts				
Cellar Sash				
Butts				
Fasts				
Hooks and eyes				
Bolts				

LOCATION	*CATALOG NO.*	*SIZE*	*FINISH*	*NO. REQUIRED*
Main Entrance Doors				
Butts				
Locks				
Sills				
Door knockers				
Letter-box plates				
Push buttons				
French Windows				
Butts				
Locks				
Bolts				
Sills				
Outside Kitchen Door				
Butts				
Locks				
Bolts				
Push buttons				
Hall Doors—Front Halls				
Butts				
Locks				
Hall Doors—Service Halls				
Butts				
Locks				
Closet Doors				
Butts				
Locks				
Bathroom doors				
Butts				
Locks				
Bolts				
Double-acting doors				
Floor hinges				
Plates				
Sliding Doors				
Pulls				
Locks				
Hangers				
Stops				
Dressers				
Butts				
Elbow catches				
Cupboard turns				
Drawer pulls				
Rollers				

LOCATION	*CATALOG NO.*	*SIZE*	*FINISH*	*NO. REQUIRED*
Book-cases				
Hinges				
Locks				
Pulls				
Slides				
Shelf supports				
Ice Door				
Butts				
Locks				
Plumbing Doors				
Butts				
Locks				
Ironing Board Door				
Butts				
Locks				
Medicine Closets				
Butts				
Locks				
Linen Closet Doors				
Hinges				
Pulls				
Slides				
Locks				
Linen Closet Drawers				
Pulls				
Rollers				
Radiator Enclosures				
Butts				
Friction catches				
Knobs				
Panel Boards				
Butts				
Locks				
Transom Lights				
Transom lifts				
Butts				
Sash centers				
Double-hung Sash				
Sash fasts				
Sash lifts				
Sash bead screws				
Casement Windows				
Butts				
Bolts				
Fasteners				
Adjusting bars				

LOCATION	*CATALOG NO.*	*SIZE*	*FINISH*	*NO. REQUIRED*
Shutters				
Hinges				
Bolts				
Rings and eyes				
Adjusting bars				
Turn buckles				
Garage Doors				
Hangers				
Tracks				
Hinges				
Fasteners				
Pulls				
Locks				
Guides				
Bumper shoes				
Brackets				
Miscellaneous				
Door stops				
Coat and hat hooks				
Ceiling hooks				

O 4 ALTERNATE BRANDS

Goods of (*a*)..... may be substituted for those above specified, if corresponding in quality and operation. No substitution may be made without the approval of the Architect, who shall be absolute judge of the comparative merits of corresponding pieces of different makes. All hardware shall be of proper size and shape to fit the woodwork as detailed.

(*a*) *name of manufacturers.*

METAL CASEMENTS

P 1 FRAMES AND SASH

Provide and set metal frames and sash, hinged as indicated on drawings, for (*a*)..... window openings. All metal casements shall be (*b*)....., of size shown on drawings. The workmanship must be of the highest standard throughout.

All sash and frames shall be clearly marked with numbers corresponding to those given on the plans.

(*a*) *all;– No. of openings.*
(*b*) *name of brand and material of hardware.*

PAINTING

Q 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

All woodwork must be thoroughly clean and dry before any paint or stain is applied. It shall be rubbed smooth, and all knots and sappy places shall be covered with grain alcohol shellac before painting.

All woodwork that is to be painted shall be primed at the earliest possible moment. The back as well as the front of all millwork coming in contact with masonry walls shall be primed. All hard wood, unless otherwise required, shall be given a coat of paste filler well rubbed in before finish is applied.

After priming, all nail holes, cracks, etc., shall be puttied with putty colored to match the finish.

No coat of paint shall be applied until the under one is perfectly dry. All mouldings and ornament shall be carefully cleaned out before each coat of paint is applied. All finished surfaces shall be left smooth and even and free from brush marks or other defects.

On completion, this Contractor shall remove all spots from floors, glass, etc., and shall repaint edges of sash and doors where necessary after fitting by the Carpenter.

Q 2 GUARANTEE

The Contractor shall guarantee his work in every respect, and shall make good, without cost to the Owner, any defects in material or workmanship which may develop within eighteen (18) months after the completion and acceptance thereof.

Q 3 SAMPLES

Samples of all wood finish shall be made for the Architect's approval, and must be accurately matched by the finished work.

Q 5
2

SHINGLE STAIN

All shingles shall be given a brush coat of (*a*)..... shingle stain after being laid.

(*a*) *name of brand.*

Q 5
3

SHINGLE STAIN

All shingles shall be dipped three-quarters of their length in (*a*)..... shingle stain and allowed to drain in a trough until dry, before being put on. After laying they shall be given a brush coat of the same stain.

(*a*) *name of brand.*

Q 6
2

EXTERIOR STAIN

The (*a*)..... shall be evenly stained (*b*)..... to produce the color directed.

(*a*) *exterior woodwork throughout, except exterior doors;– porch ceilings;– etc.*
(*b*) *with (brand of stain);– with acid stain;– or fumed;– etc.*

Q 4 MATERIALS

All materials specified shall be brought to the building in the original packages, which shall remain unopened until inspected and approved. No dilution of any description will be permitted unless specifically approved by the Architect.

White lead shall be best American white lead of (*a*)..... brand.

Linseed oil shall be pure and of best quality, raw or boiled as may be required.

Putty for exterior work shall be pure linseed oil putty; for interior work, white lead putty.

Enamel paint shall be (*b*)..... brand.

Varnish shall be (*c*)..... varnish.

Shellac shall be best grain-alcohol shellac.

(*a*) *name of brand.*
(*b*) *name of brand.*
(*c*) *name of brand.*

Q 5/1 SHINGLE STAIN

All shingles shall be dipped for three-quarters of their length in (*a*)..... shingle stain and allowed to drain in a trough until dry, before being put on.

(*a*) *name of brand.*

Q 6/1 EXTERIOR STAIN

The (*a*)..... shall be evenly stained (*b*)..... to produce the color directed, and finished with (*c*).....

(*a*) *exterior woodwork throughout, except exterior doors;– porch ceilings;– etc.*
(*b*) *with (brand of stain);– with acid stain;– or fumed;– etc.*
(*c*) *two coats boiled linseed oil;– two coats spar varnish;– etc.*

Q 7 AREA WALLS

The exposed side of all area walls shall be given two good coats of lead and oil in colors selected.

For whitewash see under "GENERAL MASONRY," page 23.

Q 11
2

INTERIOR PAINTED PLASTER

All plaster (*a*)..... shall be sandpapered thoroughly, sized, and finished with (*b*)..... in colors selected.

(*a*) *walls and ceiling in Kitchen and Bathroom No. —;– in Bedrooms;– etc.*
(*b*) *three coats lead and oil paint;– two coats (name of brand) flat wall paint.*

Q 8 EXTERIOR STUCCO PAINT

All exterior cement and plaster work shall be given two coats of (*a*)..... cement paint, in colors selected.

(*a*) *name of brand.*

Q 9 EXTERIOR PAINTED WOODWORK

The (*a*)..... shall be primed, puttied, and given (*b*)..... good coats of lead and oil in colors selected.

(*a*) *exterior woodwork throughout, except front door;– porch floor and steps;– etc.*
(*b*) *three;– two.*

Q 10 INTERIOR PAINTED WOODWORK

All interior woodwork (*a*)..... shall be primed, puttied, and finished with three good coats of lead and oil in colors selected.

(*a*) *throughout;– including all closets, cupboards and shelves;– except where otherwise specified;– etc.*

Q 11 / 1 INTERIOR PAINTED PLASTER

All plaster to be painted shall be sandpapered thoroughly, sized and finished as follows:–

(*a*).....

(*a*) *LOCATION*	*NO. OF COATS*	*PAINT*	*FINISH*
Kitchen			
walls and ceiling	*3*	*lead and oil*	*gloss*
Vestibule			
walls	*3*	*lead and oil*	*stippled*
ceiling	*2*	*(brand) flat wall paint*	*flat*
Bedrooms No. —			
walls and ceilings	*2*	*(brand) flat wall paint*	*flat*
etc.	*etc.*	*etc.*	*etc.*

Q 12 INTERIOR ENAMELED WOODWORK

All woodwork in (*a*)..... shall be primed, puttied and painted with (*b*)..... Before each coat is applied, all surfaces shall be lightly sandpapered.

(*a*) *Bathroom No. —;– Kitchen;– etc.*
(*b*) *one coat white shellac, three coats lead and oil, two coats (brand) enamel;– one coat white shellac, two coats lead and oil, one coat (brand) enamel;– etc.*

Q 13 INTERIOR ENAMELED PLASTER

All plaster (*a*)..... shall be finished in the same manner.

(*a*) *walls and ceiling in Bathroom No. —;– etc.*

Q 17
2

CANVAS WALL COVERING

The walls of (*a*)..... shall be thoroughly sandpapered, sized with glue sizing, and then covered with decorator's canvas secured with paper-hanger's paste. The canvas shall be carefully trimmed and all joints butted and glazed.

On this, panel mouldings with horizontal cap moulding, all as shown on drawings, shall be applied. The moulding shall be (*b*)....., the cap moulding (*c*).....

The (*d*)..... shall be painted with (*e*)..... to an even (*f*)..... finish, (*g*)..... the mouldings are applied.

(*a*) *Living Room;– Dining Room;– Main Hall to a height of 3';– etc.*
(*b*) *1" oak, stained to match trim;– 2" white pine;– etc.*
(*c*) *5" oak;– 4" birch stained mahogany;– etc.*
(*d*) *canvas;– whole.*
(*e*) *four coats lead and oil;– three coats lead and oil, one coat enamel;– etc.*
(*f*) *matt;– stippled;– high gloss;– etc.*
(*g*) *before;– after.*

Q 14 EGG-SHELL FINISH

The final coat of all enamel shall be rubbed to a smooth egg-shell finish with pumice stone and water, unless otherwise specified.

Q 15 MATT FINISH

The final coat (*a*)..... shall be matt enamel, to produce a smooth matt finish.

(*a*) *in Kitchen;– throughout;– etc.*

Q 16 GLOSS FINISH

The final coat (*a*)..... shall be left with a high gloss finish.

(*a*) *in Kitchen;– throughout;– etc.*

Q 17
1 CANVAS WALL COVERING

The walls of (*a*)..... shall be thoroughly sandpapered, sized with glue sizing, and then covered with decorator's canvas secured with paper-hanger's paste. The canvas shall be carefully trimmed and all joints butted and glazed. After wood trim has been applied to this by Carpenter, the whole shall be painted with (*b*)..... to an even (*c*)..... finish.

(*a*) *Living Room;– Dining Room;– Main Hall to a height of 3';– etc.*
(*b*) *four coats lead and oil;– three coats lead and oil, one coat enamel;– etc.*
(*c*) *matt enamel;– egg-shell;– high gloss;– etc.*

Q 18 INTERIOR STAIN

All interior woodwork (*a*)..... shall be evenly stained (*b*)..... to produce the color directed, and finished with (*c*).....

(*a*) *throughout;– in Living Room and Dining Room;– except in Bathrooms;– etc.*
(*b*) *with (brand of stain);– with acid stain;– or fumed;– etc.*
(*c*) *one coat shellac, two coats varnish;– two coats hard oil finish, three coats varnish;– one coat shellac, one coat wax;– two coats wax;– etc.*

Q 19 SANDPAPERING FOR VARNISH

Before each coat of varnish is applied, all surfaces shall be lightly sandpapered.

Q 20 EGG-SHELL FINISH

The final coat of varnish shall be rubbed to a smooth egg-shell finish with pumice stone and linseed oil.

For painting of boiler and piping in basement see under "HEATING," page 233.

Q 21 WAX FINISH

All waxed surfaces shall be rubbed to a smooth, glossy finish.

Q 22 MAHOGANY FINISH

All woodwork that is to have mahogany finish shall be stained to an approved mahogany color and finished to an egg-shell gloss with (*a*) . . . . . .

(*a*) *one coat shellac, two coats varnish;– one coat shellac, one coat wax;– etc.*

Q 23 FRESCO

All plaster (*a*) . . . . . shall be sized and given two coats of (*b*) . . . . . wall paint in tints selected.

(*a*) *walls and ceilings, except in basement;– etc.*
(*b*) *name of brand;– washable;– approved cold-water;– etc.*

Q 24 DRAWERS

The insides of all drawers shall be shellacked and the runways oiled.

Q 25 FLOORING

All floors and stair treads unless otherwise specified, shall be finished with (*a*) . . . . . .

(*a*) *two coats varnish;– one coat stain, one coat varnish;– one coat stain, one coat shellac, one coat wax;– two coats shellac, one coat wax;– etc.*

Q 26 OAK FLOORING

All oak floors and stair treads shall be stained (*a*) . . . . . to produce the color directed, filled with paste filler and finished with (*b*) . . . . . .

(*a*) *with (brand of stain);– with acid stain;– or fumed;– etc.*
(*b*) *one coat varnish, two coats floor wax;– two coats shellac, one coat wax;– two coats varnish;– etc.*

Q 27 PAINTED METAL WORK

All (*a*) . . . . . shall be given two good coats of lead and oil of the colors directed, in addition to the priming coat.

(*a*) *exposed plumbing, gas pipes, hot water tank, manhole covers, etc.;– steel lintels, girders, etc.;– exposed wrought iron work, area grating, etc.;– metal casements, etc.;– galvanized iron work;– etc.*

For bronzing of radiators see under "HEATING," page 231.

Q 28 GALVANIZED IRON

All galvanized iron shall be given a priming coat of (*a*)..... before applying lead and oil paint.

(*a*) *brand of galvanized iron paint;– red lead;– graphite paint;– etc.*

Q 29 ENAMELED IRON WORK

All exposed iron work of plumbing fixtures shall be given a coat of lead and oil and two coats of enamel of colors selected.

Q 30 RADIATORS

All radiators and exposed pipes, except as otherwise noted, shall be thoroughly cleaned and given three good coats of (*a*)....., of colors selected.

(*a*) *name of brand of paint or enamel.*

GLAZING

R 1 GENERAL

All work included under this heading is subject to the General Conditions of the entire operation. The Contractor for this portion of the work is required to refer especially thereto.

All glass set in woodwork shall be firmly bedded in the best oil and white lead putty, and after stops are in place, shall be neatly puttied. All glass in interior doors shall be properly bedded in putty and secured by wood moulds supplied by the Carpenter. No glass shall be put in place until after the woodwork is primed.

All glass shall be free from waves or other imperfections. At the completion of the building, all glass shall be cleaned and polished; all broken glass must be replaced.

R 2 METAL CASEMENTS

All glass in metal casements shall be secured with spring glazing clips and metal-sash putty.

R 3 DOUBLE STRENGTH GLASS

All glass throughout the building, unless otherwise specified, shall be grade (*a*)..... double strength American sheet glass.

(*a*) *A;– B:– etc.*

R 4 SINGLE STRENGTH GLASS

All glass in (*a*)..... shall be grade (*b*)..... single strength American sheet glass.

(*a*) *basement;– servants' wing;– etc.*
(*b*) *A;– B;– etc.*

R 5 PLATE GLASS

All glass in (*a*)..... shall be best quality American polished plate glass, (*b*)..... thick.

(*a*) *Living Room;– Dining Room;– opening No. —;– etc.*
(*b*) *1/8";– 3/16"– 1/4".*

R 6 FIGURED ROLLED GLASS

The glass in (*a*)..... shall be figured rolled glass of a type to be approved by the Architect.

(*a*) *ceiling light;– Bathroom windows;– Pantry doors;– doors No. —;– etc.*

R 8
2

LEADED GLASS

Leaded glass where indicated on drawings will be supplied by Owner, but shall be set by this Contractor.

R 7 WIRE GLASS

The glass in (*a*)..... shall be 1/4″ wire glass, set as shown on drawings.

(*a*) *skylight;– fireproof door No. —;– etc.*

R 8/1 LEADED GLASS

Allow the sum of (*a*)..... per square foot for all leaded glass where indicated on drawings. Leaded glass shall be set by this Contractor.

(*a*) *estimated cost.*

R 9 MIRRORS

Provide and set full-length plate glass mirror in (*a*)..... Mirrors (*b*)..... have beveled edges.

(*a*) *door to Bathroom No. —;– doors of wardrobe;– opening No. —.*
(*b*) *shall;– shall not.*

R 10 MEDICINE CABINET

Provide and set plate glass mirrors with beveled edges for medicine cabinet doors, also two adjustable plate glass shelves for interior.

R 11 COUNTER-SHELF

Supply a 1/4″ plate glass top for counter-shelf in (*a*).....

(*a*) *Kitchen;– Larder;– etc.*

S 3/2 EXCAVATION

Excavate as may be necessary for water-supply piping and drainage systems.

S 3/2-1 EXCAVATION FOR CESSPOOL

Excavate for cesspool where directed, at a distance of (*a*)..... from building; the excavation shall be 8′ in diameter and be carried 8′ below point at which drain pipe enters it.

(*a*) *50′;– 75′;– etc.*

PLUMBING

S1 GENERAL CONDITIONS

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

These specifications are intended to provide for a complete and perfect system of hot and cold water supply, drainage, vent piping, etc. Anything indicated on the drawings and not specified, or vice versa, or any detail omitted which is necessary to the proper installation of the system, must be supplied and installed by this Contractor without extra charge. The Contractor will be held strictly responsible for the quality of the materials and labor furnished and for the proper installation of the system; he must maintain a competent foreman at the building throughout the progress of the work.

All work shall conform to the Rules and Regulations of the local Bureau of Health and the requirements of the Plumbing Code. Where there are no local sanitary regulations covering any particular point, the work shall be done as required by the State Code or Regulations.

S2 PERMITS AND CONNECTIONS

This Contractor shall file all drawings, pay all fees, and obtain and pay for all permits. He shall see that an adequate supply of water for building purposes is provided at the commencement of the operation.

S3/1 EXCAVATION

All excavation is included under the separate heading "EXCAVATION" and does not form part of the contract for Plumbing.

S 7
2

TESTS

After all lead connections are made and before any plastering is done, the ends of lead and iron pipes shall be closed and the entire drainage system within the building filled with air under 5 lbs. pressure. Any leaks that may appear shall be made good and the test repeated until the piping is shown to be perfectly airtight. All tests must be made in the presence of the Architect or his representative, and to his satisfaction. No part of the work shall be covered until it has been approved by him

S 7
2-1

FINAL TEST

After all fixtures are set, a peppermint test shall be made in the presence of the Architect.

S 4 LAYOUT OF SYSTEM

Before the building is commenced, this Contractor shall submit for approval a complete layout of the proposed system of piping, indicating clearly the exact position of all chases, openings in foundation walls, trenches for drains, etc. One copy of this layout shall be filed in the Architect's office and another placed in the hands of the General Contractor.

S 5 CHASES, CUTTING, ETC.

This Contractor shall specifically inform the General Contractor, or the various sub-contractors concerned, of the size and location of all chases, openings, supports, etc., which his work may require, and shall be responsible for the construction of the same. He shall arrange for all cutting through walls, floors, roofs, etc., and the proper closing thereof. Cutting of construction is to be avoided wherever possible, but where unavoidable must be done by the sub-contractor who erected the work

S 6 TAGS FOR VALVES

All control valves shall have brass tags properly marked indicating the rooms controlled

S 7/1 TESTS

This Contractor shall make all tests as called for in the Plumbing Code or Regulations, in the presence of the Architect or his representative. Any leaks that may appear shall be repaired by the Contractor without extra charge, and the tests repeated until the piping is shown to be perfectly tight.

S 8 GUARANTEE

The Contractor shall guarantee his work in writing and make good without cost to the Owner, any defects in material or workmanship which may develop within one year after the completion and acceptance thereof.

S 9 TERRA COTTA PIPE

Terra cotta drain pipes shall be the best quality of hard, salt-glazed terra cotta, approved by the Architect. All pipes must be straight and free from obstructions.

S 10 CAST-IRON PIPE

All cast-iron pipes, traps, fittings, etc., under ground shall be "extra heavy"; all above ground "medium." They shall be factory tested, free from sand holes, splits and other defects, and of uniform weight and thickness. Underground pipes and pipes in the masonry walls shall be thoroughly coated with coal-tar pitch, after being tested by the Plumber.

S 11 WROUGHT-IRON PIPE

Wrought-iron pipes, wherever specified, shall be (*a*)..... genuine wrought-iron pipe, galvanized, "standard" in weight and thickness, lap welded, and properly tested at the mills. The name of manufacturer must appear on each length of pipe. All fittings shall be heavy beaded galvanized malleable iron.

(*a*) *name of brand.*

S 12 BRASS PIPE

Brass pipe, where specified, shall be annealed seamless tubing of iron pipe weights and sizes.

S 13 LEAD PIPE

Lead waste, soil, vent and flush pipes and connections, shall be of the following weights:–

(*a*).....

(*a*) *4" bends, 8 lbs. per running foot.*
1-1/2" waste, 3 lbs. per running foot.
1-1/4" waste, 2-1/2" lbs. per running foot.
etc. etc.

S 14 EXPOSED PIPES

All exposed supplies, traps, and wastes, except those in (*a*)..... shall be heavily nickel-plated brass.

(*a*) *Kitchen;– Pantry;– Laundry;– basement;– etc.*

S 15 NICKEL-PLATED WORK

Nickel-plated work shall be of the best quality, warranted heavy plate, on polished brass.

S 16 ESCUTCHEONS

All exposed pipes in finished rooms shall have hangers and escutcheons of the same material and finish as the pipes. Escutcheons shall be fitted closely, after the surface to which they are applied is finished.

S 18
2

JOINTS IN TERRA COTTA

Joints in terra cotta pipe must first be calked with oakum and then completely filled with cement mortar composed of 1 part Portland cement and 1 part sand. All joints must be well swabbed out on the inside.

S 17 VALVES

All valves, except at fixtures or where otherwise specified, shall be (*a*)..... polished cast brass valves of the full size of the pipes they control.

(*a*) *name of brand.*

S 18/1 JOINTS IN TERRA COTTA

Joints in terra cotta pipe must be completely filled with cement mortar composed of 1 part Portland cement and 1 part sand. All joints must be well swabbed out on the inside.

S 19 JOINTS IN CAST-IRON

Joints in cast-iron pipe shall be calked first with oakum and then, flush with the hub, with pure, soft pig lead, using 1 lb. of lead to each inch of diameter of the pipe.

S 20 JOINTS IN WROUGHT IRON AND BRASS

Joints in wrought iron and brass shall be screw joints made up with red lead. The burr formed in cutting shall be carefully reamed out.

S 21 JOINTS FOR LEAD PIPES

Joints and connections for lead pipe shall be wiped solder joints. Connections between lead and iron pipes shall be made with brass ferrules and wiped solder joints.

S 22 FLASHING OF VENT PIPES

Where vent pipes pass through roof, the joints shall be made watertight with approved special flashings or sleeves of (*a*)..... enclosing the pipe on all sides.

(*a*) *16 oz. soft copper;– 6 lb. sheet lead;– etc*

S 23 PROTECTION OF PIPES

Iron, lead or brass pipe laid in concrete or earth shall be painted with asphalt and well wrapped with tar paper or other approved protection. Where pipes pass through exterior or interior foundation walls they shall be run in terra cotta pipes of larger diameter, or through small arched openings, to protect them against damage from settlement. In masonry walls above grade they shall be run in galvanized iron sleeves to permit expansion.

If cesspool is to be included in Mason's contract see under "STONE MASONRY," page 29.

S 26 / 2 CESSPOOL TOP

The top of cesspool shall be covered with a 5″ concrete slab with 1/2″ reinforcing rods, spaced 6″ on centers. Build in it a 2′ manhole, to be fitted with a removable (*a*).....

(*a*) *3″ flagstone cover;– cast-iron cover with ring;– etc.*

S 27 / 2 SEPTIC TANK

Construct septic tank where directed. The inside dimensions shall be (*a*)..... The walls and floors shall be of 8″ plain concrete. The tank shall be equipped with baffle-boards, removable concrete slabs for top, and cast-iron pipings, all according to detail drawings. The baffle-boards are provided under the heading "CARPENTRY."

(*a*) *4′×4′×6′;– etc.*

S 28 / 2 HOUSE SEWER

The house sewer shall be of (*a*)..... cast-iron pipe, run as shown on drawings and discharging into the (*b*)..... All bends and changes in direction shall be made with long sweeps, and under no circumstances shall any part have a pitch of less than 1/8″ to the foot. The sewer shall be laid at least (*c*)..... below grade line.

(*a*) *4″;– 5″;– etc.*
(*b*) *sewer in street;– cesspool;– septic tank;– etc.*
(*c*) *2′ 6″;– 3′;– etc.*

S 24 PROTECTION FROM ROOTS

Where required to protect terra cotta drains from penetration of tree roots at the joints, the pipes shall be laid with at least 6″ of cinders on top, sides and bottom.

S 25 CESSPOOL

Construct cesspool where directed, at a distance of (*a*)..... from building. The walls shall be 16″ thick, of stone laid up without mortar.

(*a*) *50′;– 70′;– etc.*

S 26 / 1 CESSPOOL TOP

The top of the cesspool shall be covered with an 8″ brick dome with manhole, finishing 12″ below finished grade. The manhole shall be fitted with a removable (*a*).....

(*a*) *3″ flagstone cover;– cast-iron cover with ring;– etc.*

S 27 / 1 SEPTIC TANK

Provide and install where directed a (*a*)..... septic tank, complete with all baffle-boards, piping, drains, etc., as provided or required by the manufacturer.

(*a*) *name of brand, size, and type.*

S 28 / 1 HOUSE SEWER

The house sewer shall be of (*a*)..... terra cotta pipe, run as shown on drawings, and discharging into the (*b*)..... All bends and changes in direction shall be made with long sweeps, and under no circumstances shall any part have a pitch of less than 1/8″ to the foot. The sewer shall be laid at least (*c*)..... below grade line.

(*a*) *4″;– 5″;– etc.*
(*b*) *sewer in street;– cesspool;– septic tank;– etc.*
(*c*) *2′ 6″;– 3′;– etc.*

S 29 HOUSE DRAIN

From a point in the house sewer 5′ from the outer face of the building, extend a (*a*)..... cast-iron drain to soil stacks. The house drain shall have a pitch of at least 1/4″ to the foot.

(*a*) *4″;– 5″;– etc.*

S 30 GARAGE DRAIN

From a point in the house sewer 5′ from the outer face of the garage, extend a (*a*)..... cast-iron drain to fixtures in garage, and continue with vent to roof. The garage drain shall have a pitch of at least 1/4″ to the foot.

(*a*) *3″;– 4″– etc.*

S 31 HOUSE DRAIN TRAP

Just inside the foundation wall, set a "medium" weight cast-iron house-drain trap with brass screw plug handholes.

S 32 FRESH-AIR INLET

From a point directly back of the house trap a cast-iron fresh-air inlet shall be carried to a point where indicated (*a*)..... Finish with an approved (*b*).....

(*a*) *in exterior wall;– on surface of ground.*
(*b*) *grating;– cowl.*

S 33 SOIL AND VENT PIPES

Soil stacks shall be of (*a*)..... "medium" weight cast-iron pipe, properly connected with the house drain, and carried up full size through the building and above the roof. Each line shall be extended separately at least 2′ above any adjacent ventilating openings or obstructions, except where otherwise specifically directed. The location of vents is to be as inconspicuous as possible and shall be subject to the approval of the Architect.

All offsets shall be made at an angle of not less than 45 degrees to the horizontal. All turns shall be made with large bends and all branches with Y's. No lead bends are to be used except for waterclosets.

Pipe stacks shall be firmly supported at the base on masonry or in other approved manner, and elsewhere on approved iron hangers.

(*a*) *3″;– 4″.*

S 34 SOUND-PROOF SOIL STACK

The soil lines from fixtures in (*a*)..... shall be boxed and packed with mineral wool.

(*a*) *Bathroom No. —;– Toilet No. —;– etc.*

S 35 CLEANOUTS

Readily accessible cleanouts shall be placed on all horizontal lines, and at the base of all risers.

S 38
2

TRAPS AND VENTS

Every fixture, unless otherwise specified, shall have an approved trap, back-vented in accordance with the local sanitary requirements.

S 40
2

INTERIOR RAIN CONDUCTORS

Interior rain conductors, where indicated on drawings, shall be 4″ galvanized genuine wrought-iron pipe, with screwed galvanized recess drainage fittings, (*a*)..... cast-iron roof drain with flexible expansion joint, and lead flashing at gutter. The whole shall be constructed as specified for soil and vent pipes, and be connected with the drainage system.

(*a*) *name of brand;– approved.*

S 41
2

RAIN CONDUCTOR DRAINS

Drains shall be run as shown on Basement plan, of sizes indicated. All bends and changes in direction shall be made with long sweeps, and all lines shall have a pitch of at least 1/8″ to the foot. Conductor drains shall be laid at least (*a*)..... below grade.

(*a*) *2′ 6″;– 3′;– etc.*

S 36 WASTE PIPES

The size of waste pipes, unless otherwise specified, shall be as follows:— water closets (*a*)..... ; sinks, 1-1/2″; all other fixtures 1-1/4″.

(*a*) *3″;– 4″.*

S 37 LEAD WASTE PIPES

All lead waste pipes running horizontally under floors shall be supported on boards for their entire length.

S 38 / 1 NON-SIPHON TRAPS

Every fixture, unless otherwise specified, shall have a (*a*)..... non-siphon brass trap as close to the fixture as possible.

(*a*) *name of brand.*

S 39 FUTURE BATHROOMS

Rough in for (*a*)..... future bathrooms where indicated, leaving outlets at the proper places for supply, soil and waste pipes. Do all necessary capping and plugging under the floor, and mark position of the pipes.

(*a*) *one;– two;– etc.*

S 40 / 1 INTERIOR RAIN CONDUCTORS

Interior rain conductors, where indicated on drawings, shall be 4″ cast-iron pipe, with (*a*)..... cast-iron roof drain and flexible expansion joint, and lead flashing at gutter. The whole shall be constructed as specified for soil and vent pipes, and be connected with the drainage system.

(*a*) *name of brand;– approved.*

S 41 / 1 RAIN CONDUCTOR DRAINS

Rain conductor drains shall be of terra cotta, 4″ in diameter for the first two conductors, 1″ additional for each of the next two, and 1″ additional for each two conductors thereafter. All bends and changes in direction shall be made with long sweeps, and all lines shall have a pitch of at least 1/8″ to the foot. Conductor drains shall be laid at least (*a*)..... below grade.

The drains shall be collected at (*b*)..... into a (*c*)..... drain, and shall discharge into (*d*).....

(*a*) *2′ 6″;– 3′;– etc.*
(*b*) *N. E. corner of building;– etc.*
(*c*) *6″;– 8″;– etc.*
(*d*) *dry well;– cesspool;– sewer;– gutter;– etc.*

S 42
2

RAIN-CONDUCTOR SHOES

Rain conductors shall be connected to (*a*)..... cast-iron shoes (*b*)..... in length, emptying on grade.

(*a*) *4″ round;– 4″×6″;– etc.*
(*b*) *12″;– 4′;– etc.*

S 42 / 1 RAIN-CONDUCTOR SHOES

The rain conductors shall be connected to (*a*)..... cast-iron shoes extending (*b*)..... above the finished grade. These shall be connected by cast-iron pipe with terra-cotta drains at a point 5′ beyond the building.

(*a*) *4″ round;– 4″×6″;– etc.*
(*b*) *6″;– 5′;– etc.*

S 43 AREA DRAINS

Provide and set in all areas 6″ cast-iron catch basins with perforated covers, and connect properly with (*a*).....

(*a*) *area drain pits;– footing drains;– rain conductor drains;– etc.*

S 44 BOILER DRAIN

Provide and set in basement where indicated, a (*a*)..... to drain the heating system, and connect to drainage system.

(*a*) *6″ cast-iron floor drain with trap;– name of brand and size, sand trap.*

S 45 REFRIGERATOR WASTE

Provide and set in floor where indicated, a (*a*)..... cast-iron refrigerator drain. From this run a 1-1/2″ galvanized wrought-iron pipe, with recessed drainage fittings, to empty (*b*).....

(*a*) *name of brand and size.*
(*b*) *into basement sink;– into rain conductor drain;– outside of walls at grade.*

S 46 MANHOLE COVERS

Provide a cast-iron manhole cover with ring, for manhole (*a*).....

(*a*) *to cesspool;– where shown on basement plans;– etc.*

S 47 SUPPLY PIPING

All piping above the first floor level shall be concealed, except (*a*).....

All supply and waste pipes must be so placed as to be readily accessible for examination and repairs. They must be so run that they can be thoroughly drained.

Pipes must not be run in or on outside walls where avoidable. All water pipes and traps in exposed places shall be boxed and packed with mineral wool, by this Contractor.

All water supply pipes, fittings and connections shall be of galvanized genuine wrought iron unless otherwise specified.

(*a*) *in kitchen;– in pantry;– exposed supplies to fixtures;– etc.*

S 50
2

WATER-SUPPLY SYSTEM

Allow the sum of (*a*) . . . . . for water-supply system to be selected by the Architect and installed and put in perfect running order by this Contractor. All electrical connections will be made by the Contractor for "ELECTRIC WIRING."

(*a*) *estimated cost.*

S 51
2

WATER SUPPLY

The water supply will be brought into the building by the Owner at a point in the (*a*) . . . . . side of the basement wall.

(*a*) *north;– south;– etc.*

S 53
2

GATE VALVE

Where supply pipe enters the building, install a brass gate valve with drip cock.

S 48 BRASS PIPING

All piping (*a*)..... shall be of brass.

(*a*) *between water-back and hot-water storage tank;– between water heater and hot-water storage tank;– for hot water;– throughout;– etc.*

S 49 PIPE COVERING

All hot-water piping shall be neatly covered with an approved sectional magnesia or similar covering, 3/8″ thick.

S 50 / 1 WATER-SUPPLY SYSTEM

Provide and install where indicated on drawings, a complete (*a*)..... outfit for pumping and storing water. The outfit shall include motor, pump and compression tank, automatic switch and all fittings and connections for the same as required by the manufacturer and as may be necessary to insure perfect operation of the system. All electrical connections will be made by the Contractor for "ELECTRIC WIRING."

(*a*) *name of brand, type and number.*

S 51 / 1 WATER SUPPLY

The water supply shall be taken from the water company's main in (*a*)..... This Contractor shall have the proper lead connections made and shall pay for same; from this he shall continue with (*b*)..... pipe to the inner face of the foundation wall. This pipe shall be carried at least (*c*)..... below grade.

(*a*) *name of street.*
(*b*) *3/4″;– 1″;– 1-1/4″;– galvanized genuine wrought iron;– "extra strong" lead;– etc.*
(*c*) *2′ 6″;– 3′;– etc.*

S 52 CURB VALVE

Provide and install at edge of sidewalk, a curb valve with cast-iron box.

S 53 / 1 WATER METER

Install a water meter where supply pipe enters the building. The meter shall be (*a*)..... On the house side of the meter place a brass gate valve with drip cock.

(*a*) *provided by water company;– name of brand, size and type;– etc.*

S 54 PRESSURE REGULATOR

If water pressure exceeds 65 lbs., provide and install on supply pipe an approved pressure regulator of adequate capacity.

S 55 COLD-WATER SUPPLY

The supply pipe shall be continued of the same diameter through basement, with rising lines and branches as follows:—

(*a*).....

(*a*) *to water heater– 1-1/4";– 1-1/2",*
to steam-heating boiler– 1/2", with cast brass compression valve and wheel handle
to laundry tubs– 3/4",
branch to kitchen sink– 1/2",
to boiler in Laundry– 3/4",
to Bathrooms Nos. — 1",
branches to bathtubs– 3/4",
branches to lavatories– 1/2",
branches to water closets– 1/2",
to Bathroom No. — 3/4",
branch to shower– 3/4",
branch to lavatory– 1/2",
branch to sitz-bath– 1/2",
to slop sinks– 3/4",
to hose cocks– 3/4", etc.
etc.

S 56 GARAGE WATER SUPPLY

The garage water-supply pipe shall be (*a*)..... galvanized genuine wrought iron, run at least (*b*)..... below grade from basement of house to garage, with branches to fixtures as follows:—

(*c*).....

(*a*) *3/4";– 1-1/4".*
(*b*) *2' 6";– 3';– etc.*
(*c*) *to steam-heating boiler– 1/2",*
to hose cock– 3/4",
to sink– 3/4",
to water closet– 1/2", etc.

S 57 INDEPENDENT RISERS

Each column of fixtures shall have independent risers for both hot and cold water lines. There shall be at least 6" clear space between hot and cold water pipes.

S 58 STOP AND DRAIN VALVES

At the base of each hot and cold water line there shall be a (*a*)..... cast brass compression stop and drain valve.

(*a*) *name of brand;– approved.*

S 59 CONTROL VALVES

Approved stop valves to match fittings shall be provided on both hot and cold supplies beneath each fixture.

S 60 HOSE COCK

Provide and install 3/4″ brass hose cocks where indicated on drawings, with valves and drips on inside face of wall.

S 61 AIR CHAMBER

Air chambers shall be placed on hot and cold-water supply pipes to insure absence of water hammer.

S 62 HOT-WATER SUPPLY

Connect cold-water supply pipe with water service heating system and run thence hot-water lines and branches similar in size to those of the cold-water supply. Hot-water pipes shall be run to all fixtures excepting water closets and hose cocks.

S 63 CIRCULATING SYSTEM

From the highest fixture on each hot-water riser run a return pipe of the same diameter. These returns shall have a uniform fall without traps. They shall be collected into a common return main increasing in size, and connected with the hot-water storage tank. The system must be guaranteed to supply hot-water instantly at all fixtures.

S 64 PROTECTION OF FIXTURES

Immediately after the setting of any fixture, fitting or piping, this Contractor is to protect it adequately against damage. He will be held responsible for all fixtures until they are accepted by the Architect. Any fixture or fitting that becomes damaged is to be replaced by this Contractor without extra cost to the Owner. At all stages of the installation, pipe openings must be protected against the entrance of foreign material.

S 65 FITTINGS

Unless otherwise specified, all fittings shall be heavily nickel-plated cast brass. All fittings in (*a*) . . . . . shall be polished brass.

(*a*) *Kitchen;– Laundry;– etc.*

S 66 FIXTURES

Provide and set all fixtures and fittings necessary to complete the plumbing system whether herein specially mentioned or not, in accordance with the following schedule.

The numbers given below refer to the fixtures manufactured by (*a*) . . . . . .

(*a*) *name of manufacturer.*

S 69
2

RANGE

Allow the sum of (*a*) . . . . . for range, to be installed by this Contractor where indicated on drawings, and properly connected with chimney flue. The water-back shall be connected to hot-water storage tank with 1″ pipe having draw-off cock with hose end.

(*a*) *estimated cost.*

S 67 SCHEDULE OF FIXTURES

(*a*).....

LOCATION	*FIXTURE*	*CATALOG NO.*	*NO REQUIRED*
Laundry	*tubs*		
Kitchen	*sink*		
Pantry	*sink*		
Bathrooms Nos. —	*water closets*		
Bathrooms Nos. —	*lavatories*		
Bathrooms Nos. —	*bathtubs*		
Bathroom No. —	*shower-bath*		
Bathroom No. —	*sitz-bath*		
Bathroom No. —	*bidet*		
Second floor hall,	*slop sink,*		
etc.	*etc.*		

S 68 ALTERNATE BRANDS

Goods of (*a*)..... may be substituted for those above specified if corresponding in quality and operation. No substitution may be made without the approval of the Architect, who shall be absolute judge of the comparative merits of corresponding pieces of different makes.

(*a*) *name of manufacturer.*

S 69 / 1 RANGE

Provide and set a (*a*)..... range where indicated on drawings, and make proper connection with chimney flue. Connect water-back to hot-water storage tank with 1″ pipe having draw-off cock with hose end.

(*a*) *name of brand, type and number.*

S 70 WATER HEATER

Provide and set, where indicated on drawings, a (*a*)..... coal-burning water heater, and make proper connections with chimney flue and hot-water storage tank with 1″ pipe having draw-off cock with hose end.

(*a*) *name of brand, type and number.*

S 71 HOT-WATER TANK

Provide and set where indicated on drawings a (*a*)..... hot-water storage tank, and make proper connections to heater and to hot-water piping system.

(*a*) *30 gal. standard weight, galvanized iron;– 40 gal. name of brand, tested to 200 lbs. pressure, copper;– etc.*

S 72 GREASE TRAP

Provide and set, where indicated in (*a*)....., a (*b*)..... grease trap and make all proper connections.

(*a*) *basement;– Kitchen, beneath sink;– etc.*
(*b*) *name of brand size and type;– approved.*

S 73 GARAGE FLOOR DRAIN

Provide and set in floor of Garage, where indicated, a (*a*)..... garage floor drain, and make all proper drainage and vent connections.

(*a*) *name of brand, size and type;– approved.*

VACUUM CLEANING SYSTEM

T 1 WORK INCLUDED

The work included in this specification is the provision and installation of a vacuum cleaning system as manufactured by (*a*)....., complete and ready for operation. This shall consist of motor, exhauster, separator, hose, cleaning tools, piping, wiring and all other appurtenances necessary to provide a complete vacuum cleaning system. The wiring to the motor will be done by the Contractor for "ELECTRIC WIRING."

(*a*) *name of manufacturer.*

T 2 VACUUM CLEANING MACHINE

Provide and set in basement, where shown on drawings, a (*a*)..... vacuum cleaning machine, complete in all its parts.

(*a*) *name of brand, type and size.*

T 3 PIPING

From the vacuum cleaning machine run a (*a*)..... main. From this run (*b*)..... 2″ risers to the top floor where indicated. At the foot of each riser place easily accessible cleanout plugs, in such a way that the flow of air is never directly against them. All piping shall be "standard" weight galvanized wrought iron, especially selected for smooth interior surface. All burrs must be carefully reamed out. All piping shall be supported on approved pipe hangers, spaced not more than 10′ apart, and shall be thoroughly secured throughout to prevent vibration.

All fittings shall be "standard" long-turn vacuum cleaning fittings. All joints shall be made with unions having inside shoulders against which the pipe is screwed, to insure a smooth inside surface, free from pockets and obstructions. All joints shall be made up with red lead and shellac.

(*a*) *2″;– 2-1/2″,*
(*b*) *one;– two;– etc.*

T 4 INLETS

All inlets shall be located where indicated on drawings, with self-closing valves, hose connections, and plates finished to match hardware.

All inlets and branches shall be made with bends; no T connections will be allowed.

T 5 HOSE

Provide (*a*)..... feet of best-quality non-collapsible 1-1/2″ inside diameter, steel reinforced rubber vacuum hose, with metal terminals.

(*a*) *30;– 50;– etc.*

T 6 CLEANING TOOLS

Provide the following cleaning tools:– (*a*).....

(*a*) *floor handle;– wall handle;– 12″ carpet tool;– 15″ bare floor tool;– 10″ wall brush;– upholstery cleaner;– etc.*

T 7 TEST

After piping has been installed and all inlets capped, this Contractor shall test the entire system with force-pump and mercury, in the presence of the Architect.

GAS FITTING

U 1 GENERAL

The building shall be piped for gas, starting from the meter in basement and running to all points indicated on the drawings. This Contractor shall make all necessary arrangements with the Gas Company and see that the gas meter required is properly installed. His materials and workmanship must conform throughout with all regulations of the local authorities and of the Gas Company.

U 2 DIAGRAM

Before commencing work this Contractor shall submit to the Architect for approval a diagram showing the proposed arrangement of all piping and valves.

U 3 SYSTEM

All pipes shall be run as direct as possible, with a constant grade toward the risers and outlets. The system shall be arranged to drain completely all water of condensation. Special drips shall be provided if necessary for this purpose. All branches shall be taken from the sides or top of horizontal lines. Wall outlet branches shall be run from below; all outlets shall be at right angles with the wall or ceiling and shall project 1″ from the finished surface. All outlets shall be properly capped.

U 4 PIPE

All pipe shall be black iron of "standard" weight, with galvanized iron beaded fittings, in accordance with the rules of the local authorities and the Gas Company. Piping shall be of sufficient size to supply all burners at one time with a full head. No pipe less than 3/8″ shall be used.

U 5 VALVES

Outlets for (*a*)..... shall be provided with heavy lever handle gas cocks.

(*a*) *water-heater;– range;– etc.*

U 6 SUPPORTS

All risers, branches, outlets, etc., shall be securely fastened with galvanized iron straps and screws to strong cleats on walls and floors. Mains shall be supported on heavy pipe hangers.

U 7 GAS RANGE

Provide and set where indicated a (*a*)..... gas range, and make proper connections with (*b*).....

(*a*) *name of brand, type and size.*
(*b*) *gas main and chimney flue;– gas main.*

U 8 WATER HEATER

Provide and set where indicated, a (*a*)..... water heater, and make proper connections with gas and water systems, and connect vent pipe with chimney flue.

(*a*) *name of brand, type and size.*

U 9 CONNECTION TO INCINERATOR

Make proper connections for gas burner in incinerator, in accordance with the requirements of the manufacturer.

U 10 TEST

On completion, this Contractor shall test the entire system as required by the Gas Company, and obtain and file with the Architect a certificate showing that such a test has been completed to the Gas Company's satisfaction.

HEATING

V 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

This specification and the accompanying drawings are intended to provide a complete and perfectly working heating system. Anything shown on the drawings and not specified, or vice versa, or any detail omitted which is necessary to the proper installation and completion of the system must be supplied and installed by this Contractor without extra charge. This Contractor will be held strictly responsible for the quality of the materials and labor furnished, and for the proper installation of the system. He must employ none but competent workmen on the operation. All cutting and repairing of other work necessary for the installation of the heating system must be done by the Contractor who erected that work.

On completion, this Contractor shall adjust all apparatus and test the entire system in the presence of the Architect. All coal necessary for the test will be furnished by the Owner.

V 2 GUARANTEE

This Contractor shall guarantee in writing, a complete and noiseless operation throughout the entire heating system. He shall further guarantee that the system will fully heat the building to 70 degrees Fahrenheit in zero weather, and shall make good without cost to the Owner any defects in material or workmanship which may develop in his work within one year after the completion and acceptance thereof.

V 3 TEMPORARY INSTALLATION

The boiler and such piping and radiators as may be necessary, shall be installed in time to keep the temperature throughout the building above the freezing-point during the period of plastering and subsequent drying. The radiators shall be set out from the wall to permit plastering, and reset in their final positions when directed by Architect.

V 4 PROTECTION

All materials on the ground or set in place must be properly protected. Should damage occur to the same, or any injury be done to any portion of the building by this Contractor, it shall be made good at his expense.

V 5 SYSTEM

The system of heating to be employed will be (*a*).....

(*a*) *low-pressure steam, one-pipe system;–*
low-pressure steam, one-pipe system with air line;–
low-pressure steam, two-pipe steam;–
low-pressure steam, two-pipe system with air line;–
vapor system;–
vacuum system;–
hot-water, sealed system;–
hot-water, open tank system;–
etc.

V 6 FOUNDATION FOR BOILER

Build a suitable concrete foundation for boiler where shown on drawings, consisting of 4″ of cinder concrete, composed of 1 part Portland cement and 5 parts cinders, with a 1″ finishing coat composed of 1 part cement and 2 parts sand.

V 7 BOILER

Provide and set where shown on drawings, (*a*) ..... boiler, with capacity of not less than (*b*)..... sq. ft. of radiation.

Provide a full complement of attachments and fixtures, and a complete set of fire tools, shovel, hoe, flue-cleaner, and any other tools required for the proper operation of the grate and the cleaning and adjusting of the boiler, with suitable rack for hanging tools.

Connect the boiler properly to the water system, with a shut-off valve.

(*a*) *number of boilers, name of brand, type and size.*
(*b*) *1000;– 5000;– etc.*

V 8 WATER-HEATING STACK

Provide and set a (*a*)..... water-heating stack, and make proper connections with the boiler. The connections to hot-water storage tank and water-supply system will be made by the Contractor for Plumbing.

(*a*) *name of brand, type and size.*

V 9 SMOKE CONNECTION

Provide a smoke connection, of the full size of the collar at the rear of the boiler, and connect with the chimney flue. The smoke pipe shall be No. 16 gauge galvanized iron, made perfectly tight, and shall be provided with necessary cleanout and damper.

V 10 PIPES

All pipes used throughout shall be (*a*)..... genuine wrought iron of "standard" weight. All fittings shall be of the best heavy grey iron with clean-cut threads.

All supply and return pipes shall be run with proper pitch, without traps or pockets, dripped and relieved where necessary for the noiseless and perfect operation of the system. An approved valve shall be placed on the return pipe near boiler to permit complete drainage of the system. All piping shall be supported on substantial adjustable hangers spaced not more than 10′ apart, and arranged to permit expansion and contraction. All pipes passing through walls, floors or partitions shall have galvanized iron collars or sleeves and approved nickel-plated floor and ceiling plates. All radiators shall be connected to their respective risers or to the mains, by branches of the full size of the valves, with due provision for expansion and contraction.

(*a*) *name of brand.*

V 11 CONCEALED PIPING

All piping above the basement shall be concealed in the walls, except where otherwise indicated.

V 12 JOINTS

All screw joints in pipe lines shall be made steam and water tight without packing of any kind. Only lead and oil, or approved composition shall be used in making joints.

Right and left couplings shall be used only on pipes 1-1/2″ or less. All pipes over 1-1/2″ shall be joined together with flanged unions.

V 13 VALVES

Provide and set all valves shown or required for radiators and connections at boiler, including gate and check valves where necessary. Valves shall be of (*a*)..... make.

Valves over 2″ shall have iron bodies with brass trimmings. Exposed valves in the finished parts of the building shall have nickel-plated trimmings and (*b*)..... wheels.

(*a*) *name of brand;– an approved.*
(*b*) *polished wooden;– iron;– lock shield.*

V 14 AIR VALVES

All radiators shall have nickel-plated air valves of (*a*)..... make.

(*a*) *name of brand;– approved.*

V 15/2 SEALED SYSTEM TANK

Provide and set in basement near boiler a closed (*a*)..... gallon galvanized iron expansion tank, and install on return line a (*b*)..... relief valve.

(*a*) *20;– 30;– etc.*
(*b*) *name of brand.*

V 18/2 RADIATOR RECESSES

All recesses for radiators shall be lined with 3/8″ asbestos board.

V 15 / 1

OPEN EXPANSION TANK

Provide and erect, where directed, a (*a*)..... gallon galvanized iron expansion tank, complete with gauge glass and brass fittings. The tank shall be supported on galvanized iron brackets at least 3′ above the top of the highest radiator, and shall have an overflow pipe run to atmosphere where directed.

(*a*) *20;– 30;– etc.*

V 16

EXTENSION TO GARAGE

From heating main in basement of house run a (*a*)..... pipe to supply heating system in Garage. This pipe shall be encased underground in (*b*)..... sectional conduit, with roller supports not more than 15′ apart, and with (*c*)..... drain underneath. The pipe shall be insulated with approved (*d*).....

(*a*) *2-1/2″;– 3″;– 4″;– etc.*
(*b*) *name of brand and diameter.*
(*c*) *base;– farm.*
(*d*) *sectional pipe covering;– insulating packing.*

V 17

RADIATORS

Provide and set, where shown, sectional cast-iron radiators of (*a*)..... make, as follows:–

(*b*).....

(*a*) *name of brand.*

(*b*) *LOCATION*	*NO.*	*SECTIONS*	*HT.*	*SQ. FT.*	*STYLE*	*TYPE*
Living-room	*2*	*9*		*180*	*"Vento"*	*indirect*
Dining-room	*2*	*9*	*25″*	*81*	*"Princess"*	*3 column*
Toilet	*1*	*1*		*9*	*"Peerless"*	*wall*
Garage	*1*	*4*		*36*	*"Peerless"*	*wall*
etc.	*etc.*	*etc.*	*etc.*	*etc.*	*etc.*	*etc.*

V 18 / 1

RADIATOR RECESSES

All recesses for radiators shall be lined with 1/8″ asbestos board and No. 26 (*a*).....

(*a*) *galvanized iron;– black iron painted to match radiators.*

V 20/2 DUCTS

All ducts and registers shall be of sizes shown on drawings.

V 23/2 PAINTING AND BRONZING

The painting of radiators and exposed pipes above the basement is provided under the heading "PAINTING."

V 19 INDIRECT RADIATION

Indirect radiator stacks shall be properly hung on heavy wrought-iron hangers, or supported from the floor as approved, and enclosed in No. 22 galvanized iron casing. This casing shall have all seams locked and soldered and shall be provided with an air-tight cleanout at bottom. The space between the radiators and the casing shall not be less than 12″ at the top and 10″ at the bottom. The casing shall be connected to the fresh-air intake and to the register, with No. 24 galvanized iron ducts. The fresh-air intake shall be provided with a damper with quadrant and set screw, and removable 1/2″ mesh galvanized screen at inlet.

V 20 / 1 DUCTS

Ducts shall be curved at all changes in direction. The sizes of ducts and registers shall be as follows:–

(*a*).....

(*a*)	*LOCATION*	*NO.*	*COLD-AIR*	*HOT-AIR*	*REGISTER*
	Living room	*3,*	*190 sq. in.*	*230 sq. in.*	*350 sq. in.*
	Dining-room	*2,*	*140 sq. in.*	*170 sq. in.*	*260 sq. in.*
	etc.	*etc.*	*etc.*	*etc.*	*etc.*

V 21 REGISTERS

Provide and set where indicated on drawings, registers with louvres and frames. Registers shall be of (*a*)..... make and of approved pattern, and shall be finished to match adjacent hardware or trim as required.

(*a*) *name of brand;– approved.*

V 22 RECIRCULATION REGISTERS

Provide and install where indicated on drawings, recirculation registers and ducts to indirect radiator stacks. Each register shall have a net area of opening equal to the area of the cold-air duct.

V 23 / 1 PAINTING RADIATORS

All radiators and exposed pipes above the basement, unless otherwise specified, shall be thoroughly cleaned at the completion of the work, and painted three good coats of radiator enamel of color to be selected by the Architect.

V 24 BRONZING

All radiators and exposed pipes (*a*)..... shall be painted one good coat of radiator bronze.

(*a*) *in service wing;– throughout.*

V 25 PAINTING BOILER

All piping and cast-iron work in the basement, including the face of the boiler, shall be painted with best-quality asphaltum.

V 26 BOILER COVERING

Boiler shall be covered with a 1-1/2″ coating of asbestos cement, applied on substantial wire mesh securely fastened to the boiler.

V 27 PIPE COVERING

All main supply and return pipes in basement shall be covered with 1″ sectional asbestos covering, put on with metal bands. All fittings shall be covered with asbestos cement and finished to a hard, smooth surface.

HOT-AIR HEATING

W 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

All cutting and repairing of other work, necessary for proper installation of the heating system, shall be done by the Contractor for that work.

W 2 GUARANTEE

The Contractor shall guarantee that this heating system will fully heat the building to 70 degrees Fahrenheit in zero weather.

W 3 FURNACE

Provide and install in the proper manner, where indicated on drawings, a (*a*)..... hot-air furnace complete in all its parts. Particular care must be taken that the furnace be absolutely gas-tight.

Provide a complete set of fire tools, shovel, hoe, flue-cleaner, and any other tools required for the proper operation of the furnace.

(*a*) *name of brand, size, type, and number.*

W 4 SETTING TWO FURNACES

The two furnaces, placed side by side, shall supply a common hot-air chamber. The heating pipes leading to the various portions of the building shall be taken from this chamber, so that one or both furnaces may be used as desired.

W 5 SMOKE PIPE

Provide a smoke connection of the full size of the collar at the rear of the furnace. The smoke pipe shall be No. 16 gauge galvanized iron made perfectly tight, and shall be provided with a check draught the full area of the pipe. The smoke pipe must be kept at least 12″ below the ceiling.

W 6 / 2 COLD-AIR DUCT

The cold-air duct will be built beneath the cellar floor, and is provided under the heading "BRICKWORK."

W 8 / 2 CHASE LINING

Line all chases and wood framing through which hot-air pipes pass, with bright tin, leaving an air space between woodwork and pipe.

W 8 / 3 PIPE COVERING

All pipes throughout shall be covered with heavy asbestos sheathing. Basement pipes shall be covered with air-cell asbestos covering secured with metal bands.

W 6 / 1 COLD-AIR DUCT

Provide and install a cold-air box, equal in area to 3/4 of total areas of the hot-air ducts, extending from the opening in the outside wall to the furnace. This box shall be of No. 24 galvanized iron, secured to the basement ceiling. There shall be an interior baffle-plate, a regulating damper, and a cleanout door with suitable fastening, where directed by the Architect. Provide a galvanized wire screen with 1/2″ mesh at outer end of the duct.

W 7 PIPING

All hot-air piping shall be made of I. X. bright tin plate, of sizes indicated. Pipes in the basement shall be circular in section and shall be connected with the vertical stacks by means of square boxes. All pipes shall have a rise of at least 1″ per foot. They shall have tight joints and shall be equipped in basement with regulating dampers near the furnace. All pipes in the basement shall be marked with the names of the rooms which they supply.

W 8 / 1 ASBESTOS COVERING

All pipes in chases and wood framing shall be covered with heavy asbestos sheathing.

W 9 REGISTERS

Provide and set, where indicated on drawings, register boxes with louvres and frames. There shall be a 2″ space between register box and tin casing. Registers shall be of (*a*)..... make, of approved pattern and of sizes and finish as indicated in the schedule.

(*a*) *name of brand;– approved.*

W 10 SCHEDULE OF FLUE AND REGISTER SIZES

(*a*).....

(*a*) *LOCATION*	*CELLAR PIPE*	*WALL DUCT*	*REGISTER*	*FINISH*
Living Room	*12″ diameter,*	*3″×14″,*	*12″×14″*	*electro bronze*
Dining Room	*10″ diameter,*	*3″×12″,*	*10″×12″,*	*white enamel*
etc.	*etc.*	*etc.*	*etc.*	*etc.*

W 11 PAINTING

This Contractor shall paint all exposed galvanized iron or tin work with two coats of lead and oil paint of color selected by the Architect.

ELECTRIC WIRING

X 1 GENERAL

All work included under this heading shall be subject to the General Conditions of the entire operation. The sub-contractor for this portion of the work is required to refer especially thereto.

These specifications are intended to provide for a complete and perfect system of electric wiring. Anything indicated on the drawings and not specified, or vice versa, or any detail omitted which is necessary to the proper installation of the system, must be supplied and installed by this Contractor without extra charge.

This Contractor shall pay for all permits and connections, for all surveys, and all inspectors' fees.

He shall be responsible for any injury to his work from any cause, until accepted by the Architect. He shall comply with all requirements of the local authorities, the Public Service Corporation supplying the current, and the Board of Fire Underwriters.

He shall place all necessary thimbles and outlet boxes which occur in masonry work, before this work is done, or shall do such cutting and repairing as may be necessary, at his own expense and to the approval of the Architect. No cutting of joists or studs shall be done without first securing permission from the Architect.

X 2 MATERIALS

All wires, switches, fittings, etc., shall be such as are found in the list of approved fittings of the National Board of Fire Underwriters. Samples of all material to be used on the work shall be submitted to the Architect for his approval.

X 3 LAYOUT OF SYSTEM

The Contractor shall submit a complete layout of the system to the Architect for approval before proceeding with the work. The Architect's approval will not be given until all drawings have been approved in writing by the Public Service Corporation supplying the current. No approval of the Architect is to be construed as annulling in any way the guarantee of the Contractor for the perfect operation of the system.

X 4 LOCATION OF OUTLETS

The locations of outlets are shown on the Architect's drawings, but must be verified by the Architect at the building before the outlets are placed. Slight changes in the position of outlets, if decided on before any work has been done by this Contractor shall be made by him without extra charge.

X 5 INSPECTION

The Contractor shall have an inspection of his work made by the local Board of Fire Underwriters, and shall deliver certificates of approval to the Architect before receiving his final payment.

X 6 TESTS

Upon completion, the Contractor shall test the system in the presence of the Architect. The installation must be such that between the service switch and the most remote fixture not more than 2 per cent drop may be found under full load.

X 7 GUARANTEE

The Contractor shall guarantee his work in writing and make good, without cost to the Owner, any defects in material or workmanship which may develop within one year after the completion and acceptance thereof.

X 8 SYSTEM

The building shall be wired throughout for current as supplied by the local Electric Company on the two-wire system for branches and three-wire for feeders. The number of lights at each outlet is indicated on the drawings; where no number is given one light is to be understood. Each light shall be considered as 40-watt and of such voltage as is supplied by the Electric Company in the territory. Not more than 16 sockets or 1320 watts will be allowed on one circuit.

X 9 / 2

UNDERGROUND SERVICE CONNECTION

The service connection shall be run underground in galvanized wrought iron conduit (*a*)....., in trench 2′ deep. Provide and install therein stranded cables with rubber and lead insulation, of sufficient capacity to insure that there shall not be more than 2 per cent drop with all lights turned on. Connect properly with main and with service switch in building.

(*a*) *with approved coating;– painted with two coats of red lead paint;– painted with asphalt;– embedded in 6″ of 1:3:6 concrete.*

X 9 / 2-1

UNDERGROUND TELEPHONE CONNECTION

The telephone connection shall be run underground in similar manner to the electric light service connection, but with at least 8″ space between the conduits of the two systems. The size of conduit, size and number of cables, etc. shall be as required by the Telephone Company.

X 9 / 2-2

MANHOLE

Build manhole 3′×3′ with 8″ brick walls, at street end of service connection. The manhole shall be brought up to the level of the grade and have a substantial cast-iron frame and manhole cover.

X 12 / 2

PANEL BOARD

Provide and set where marked on drawings a fully equipped (*a*)..... panel board with at least two spare circuits.

(*a*) *name of brand, size, and type.*

X 9 / 1 SERVICE CONNECTION

The service connection will be brought to the building by the Electric Company supplying the current. This Contractor shall see that the Electric Company makes its connections where and as the Architect shall direct.

X 10 METER BOARD

Where service enters building, furnish and install a neatly made meter board with all necessary main switches and meters. The meters will be provided by the local Electric Company.

X 11 FEEDERS

All feeders shall be run 25 per cent heavier than the required load. Feeders shall be three-wire system from meter board to panel board.

X 12 / 1 PANEL BOARD

Provide and set, where marked on drawings, approved slate panel board of safety type, with slate side linings, in steel box with (*a*)..... A directory showing the outlets controlled by each circuit shall be mounted on the inside of the door of the box. Each panel board must have at least two spare circuits. All switches, bars, clips, etc., shall be of approved pattern, strongly secured, of ample capacity to carry the current without heating.

(*a*) *steel door;– wood door and trim provided by Carpenter.*

X 14
2

KNOB-AND-TUBE WORK

All wiring (*a*)..... shall be run with porcelain knobs and tubes. The knobs shall be securely fastened at intervals not greater than 4′ 6″. Where wires pass through studs or joists they must be run through porcelain tubes which project 1/2″ beyond each side of the timber. All wires must be stretched tight. Wires must be kept at least 1″ from any adjacent surface and at least 5″ apart.

(*a*) *in Garage;– except where otherwise required by the Fire Underwriters' Association having jurisdiction;– etc.*

X 13 GARAGE CIRCUIT

From a branch connection on the distributing panel, run a circuit to the Garage. At the point where circuit enters the Garage install an approved switch and cut-out in a steel box, and extend circuits to the various outlets. The feeder to Garage shall be run (*a*).....

(*a*) *overhead, supported by approved insulators at each end;– underground, with lead covered wires, installed in galvanized iron pipe painted with asphalt;– etc.*

X 14 / 1 CONDUIT WORK

All wiring (*a*)..... shall be in (*b*).....

Conduits must in no case be fastened to gas, water, or other pipes, and shall be kept not less than 5″ away from hot-water and heating pipes.

(*a*) *in masonry walls and floors;– except in Garage;– throughout.*
(*b*) *black enameled iron conduit;– galvanized iron conduit;– flexible armored cable.*

X 15 RIGID CONDUITS

All conduits shall be installed behind plaster of walls and in floor construction and so run that the wires may be withdrawn at any time. The installation must be completed before any wires are drawn in. The inner diameter of all conduits shall be 1/3 larger than the combined diameter of the wires contained, and in no case shall it be smaller than 5/8″.

All ends of conduits shall be squarely cut with hack saws, the use of cutting wheels will not be allowed. Conduits shall be threaded and reamed out clean before being put together. Joints shall be made with plain iron couplings, freshly coated with white lead just before being secured together. Each joint shall be coated with waterproof paint as soon as it is completed.

Where conduits enter cabinets and outlets they must be threaded and secured with two lock-nuts, or be threaded into the material of the box, and have one lock-nut.

Conduits shall run as nearly straight as possible between outlets and switches. Where more than three bends are required an intersection or junction box shall be introduced to relieve the strain in pulling the wires.

X 16 OUTLETS

Wiring shall terminate at all outlets in stamped steel outlet boxes of approved make, and similar finish to conduit. Outlet boxes shall be located where directed, set so that the plates will be flush with the finished wall or base board, and protected from injury by the plasterers or other workmen.

Where two or more switches are located side by side they shall be set in a gang box.

X 22
2

FIXTURES

Allow the sum of (*a*)..... to cover the cost of fixtures, bulbs, and glassware, which shall be selected by the Architect and installed by *b*.....

(*a*) *estimated cost.*
(*b*) *this Contractor;– the manufacturer.*

X 17 FIXTURE SUPPORTS

Boxes for fixture outlets shall have suitable studs for the support of the fixtures, so arranged that the weight of the fixture will not come on the outlet box.

X 18 WIRE

All wire and cable used throughout shall be 98 per cent pure copper, rubber covered and with braided insulation as approved by the National Board of Fire Underwriters. No wire smaller than No. 14 B. & S. gauge shall be used. All wires larger than No. 6 inclusive shall be stranded.

X 19 WIRE JOINTS

Joints and splices will only be permitted at junction or outlet boxes, never inside conduits. All joints shall be firmly soldered without acid, and taped, first with rubber tape and then with friction tape equivalent in thickness to the insulation of the wire.

X 20 SWITCHES

All wall switches shall be (*a*)..... with metal plates not less than .004″ thick, finished to match the adjacent hardware. Switches must be of the highest quality in type and workmanship, and must be approved by the Architect.

Install three-way switches where marked on drawings. Where two or more switches are located side by side, they shall have one single plate.

(*a*) *name of brand and type;– push type;– tumbler;– etc.*

X 21 MARKED PLATES

Gang plates shall have the lights controlled by each switch (*a*)..... on the plate.

(*a*) *engraved;– stamped.*

X 22/1 FIXTURES

All fixtures will be furnished and installed under a separate contract.

X 23 RECEPTACLES

Provide and install where noted on drawings, (*a*)..... flush receptacles of the pin type with plates and plugs complete. All metal work shall be finished to match the adjacent hardware.

(*a*) *name of brand and type;– approved.*

X 24 PILOT CIRCUITS

Provide pilot circuits for (*a*).....

(*a*) *electric iron receptacle;– outlet in basement with pilot showing in kitchen;– etc.*

X 25 MOTOR CONNECTIONS

This Contractor shall make all motor connections for (*a*)..... where indicated, as required by the manufacturer of the motor, or as may be necessary.

(*a*) *water supply system;– vacuum cleaning system;– etc.*

X 26 ELECTRIC BELL CIRCUITS

Provide and install, where directed, push buttons to ring bells as follows:–

(*a*).....

(*a*) *Front door, ringing in Pantry and third story rear hall (2″ bell).*
Back door, ringing in Kitchen (sleigh bell).
Dining Room floor, ringing in Kitchen (buzzer).
Bedroom, ringing in Chauffeur's Room in Garage (2″ bell).
Living Room
Study } *all on one annunciator in Pantry.*
Bedroom No. —
etc.

X 27 TRANSFORMER

The current for electric bells shall be taken from the electric light circuit through an approved bell-ringing transformer, conforming to the requirements of the Fire Underwriters' Association, to be located in basement where directed.

X 28 BELL WORK

All wire for bell work shall be not less than No. 18 B. & S. gauge (*a*)..... wire of best quality, to be approved by the Architect. All wires shall be run in(*b*)....., concealed in partitions.

All bells and buzzers shall be of make and size approved by the Architect.

(*a*) *damp-proof office;– rubber-covered.*
(*b*) *an approved manner;– conduit.*

X 29 ANNUNCIATOR

Annunciators shall be (*a*)..... with a drop indicator for each push button, and at least two extra for future use.

(*a*) *name of brand and pattern;– approved make.*

X 30 PUSH BUTTONS

Push buttons shall be as follows:–

(*a*).....

All metal work shall be finished to match the adjacent hardware.

(*a*) *Exterior doors—approved waterproof type, to match door hardware;– etc.*

Dining Room—nickel-plated clamp and push button, connected by 6′ of silk cord with detachable connection in center of floor;– etc.

Bedrooms—pear-shaped type, connected to plug connections in base board by 6′ of silk cord;– etc.

All others—midget type, pearl buttons, brass plate set in door trim or where shown on drawings.

X 31 OUTSIDE TELEPHONE SERVICE

Run conduit, to be approved by the Telephone Company, from the exterior wall, where directed, to outlet in (*a*)..... with approved face plate at outlet. Leave a No. 14 iron wire in conduit for pulling in future telephone wires.

(*a*) *Coat closet;– Bedroom No. —;– etc.*

X 32 HOUSE TELEPHONE

Provide and install a House Telephone System with the following connections and instruments:-

(*a*).....

These telephones shall be intercommunicating, allowing any station to call up any other.

The system shall consist of (*b*)..... telephones, complete with necessary conduits, outlet boxes, cover plates, wires, batteries, etc., as specified or recommended by the manufacturer of the telephones.

(*a*) *Bedroom No. —, desk phone.*
Kitchen, flush wall phone.
Garage, flush wall phone.
Coat closet, first story, flush wall phone.

(*b*) *name of brand, size, and type.*

X 33 SPEAKING TUBES

Provide and install a complete system of speaking tubes as indicated on drawings. The tubing shall be heavily plated block tin pipe 1″ in diameter, perfectly soldered at all joints and seams, and shall be supported with pipe straps. All changes in direction shall be made with proper fittings. Mouthpieces shall be porcelain with indicating flaps and whistles. set 4′–10″ above floor.

ARCHITECT =

MR. SKLAREK, AS THE OWNER'S AGENT

~~APPENDIX~~

THE GENERAL CONDITIONS OF THE CONTRACT = TITLE
~~FOR THE CONSTRUCTION OF BUILDINGS~~

Standard Form of the American Institute of Architects

These General Conditions have received the approval of the National Association of Builders' Exchanges, the Associated General Contractors of America, the Joint Conference on Construction Contracts, the National Association of Master Plumbers, the National Association of Sheet Metal Contractors of the United States, the National Electrical Contractors' Association of the United States, the National Association of Marble Dealers, the Building Granite Quarries Association, and the Building Trades Employers' Association of the City of New York.

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Art. 1. Definitions.

(a) The Contract Documents consist of the Agreement, the General Conditions of the Contract, the Drawings and Specifications, including all modifications thereof incorporated in the documents before their execution. These form the Contract.

(b) The Owner, the Contractor and the Architect are those mentioned as such in the Agreement. They are treated throughout the Contract Documents as if each were of the singular number and masculine gender.

(c) The term Subcontractor, as employed herein, includes only those having a direct contract with the Contractor and it includes one who furnishes material worked to a special design according to the plans or specifications of this work, but does not include one who merely furnishes material not so worked.

(d) Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered mail to the last business address known to him who gives the notice.

(e) The term " work " of the Contractor or Subcontractor includes labor or materials or both.

(f) All time limits stated in the Contract Documents are of the essence of the Contract.

(g) The law of the place of building shall govern the construction of this Contract.

Art. 2. Execution, Correlation and Intent of Documents.—The Contract Documents shall be signed in duplicate by the Owner and the Contractor. In case the Owner and the Contractor fail to sign the General Conditions, Drawings or Specifications, the Architect shall identify them.

The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. It is not intended, however, that materials or work not covered by or properly inferable from any heading, branch, class or trade of the specifications shall be supplied unless distinctly so noted on the drawings. Materials or work described in words which so applied have a well known technical or trade meaning shall be held to refer to such recognized standards.

Art. 3. Detail Drawings and Instructions.—The Architect shall furnish with reasonable promptness, additional instructions, by means of drawings or otherwise, necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom. The work shall be executed in conformity therewith and the Contractor shall do no work without proper drawings and instructions.

The Contractor and the Architect, if either so requests, shall jointly prepare a schedule, subject to change from time to time in accordance with the progress of the work, fixing the dates at which the various detail drawings will be required, and the Architect shall furnish them in accordance with that schedule. Under like conditions, a schedule shall be prepared, fixing the dates for the submission of shop drawings, or the beginning of manufacture and installation of materials and for the completion of the various parts of the work.

Art. 4. Copies Furnished.—Unless otherwise provided in the Contract Documents the Architect will furnish to the Contractor, free of charge, all copies of drawings and specifications reasonably necessary for the execution of the work.

Art. 5. Shop Drawings.—The Contractor shall submit with such promptness as to cause no delay in his own work or in that of any other Contractor, two copies of all shop or setting drawings and schedules required for the work of the various trades, and the Architect shall pass upon them with reasonable promptness. The Contractor shall make any corrections required by the Architect, file with him two corrected copies and furnish such other copies as may be needed. The Architect's approval of such drawings or schedules shall not relieve the Contractor from responsibility for deviations from drawings or specifications, unless he has in writing called the Architect's attention to such deviations at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings or schedules.

Art. 6. Drawings and Specifications on the Work.—The Contractor shall keep one copy of all drawings and specifications on the work, in good order, available to the Architect and to his representatives.

Art. 7. Ownership of Drawings and Models.—All drawings, specifications and copies thereof furnished by the Architect are his property. They are not to be used on other work and, with the exception of the signed Contract set, are to be returned to him on request, at the completion of the work. All models are the property of the Owner.

Art. 8. Samples.—The Contractor shall furnish for approval all samples as directed. The work shall be in accordance with approved samples.

Art. 9. Materials, Appliances, Employes.—Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work.

Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among his employes, and shall not employ on the work any unfit person or any one not skilled in the work assigned to him.

Art. 10. Royalties and Patents.—The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has information that the process or article specified is an infringement of a patent he shall be responsible for such loss unless he promptly gives such information to the Architect or Owner.

Art. 11. Surveys, Permits and Regulations.—The Owner shall furnish all surveys unless otherwise specified. Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Architect in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Architect, he shall bear all costs arising therefrom.

Art. 12. Protection of Work and Property.—The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employes of the Owner. He shall adequately protect adjacent property as provided by law and the Contract Documents. He shall provide and maintain all passage ways, guard fences, lights and other facilities for protection required by public authority or local conditions.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the Architect or Owner, is hereby permitted to act, at his discretion, to prevent such threatened loss or injury, and he shall so act, without appeal, if so instructed or authorized. Any compensation, claimed by the Contractor on account of emergency work, shall be determined by agreement or Arbitration.

Art. 13. Inspection of Work.—The Architect and his representatives shall at all times have access to the work wherever it is in preparation or progress and the Contractor shall provide proper facilities for such access and for inspection.

If the specifications, the Architect's instructions, laws, ordinances or any public authority require any work to be specially tested or approved, the Contractor shall give the Architect timely notice of its readiness for inspection, and if the inspection is by another authority than the Architect, of the date fixed for such inspection. Inspections by the Architect shall be promptly made, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Architect, it must, if required by the Architect, be uncovered for examination at the Contractor's expense.

Re-examination of questioned work may be ordered by the Architect and if so ordered the work must be uncovered by the Contractor. If such work be found in accordance with the Contract Documents the Owner shall pay the cost of re-examination and replacement. If such work be found not in accordance

with the Contract Documents the Contractor shall pay such cost, unless he shall show that the defect in the work was caused by another Contractor, and in that event the Owner shall pay such cost.

Art. 14. Superintendence: Supervision.—The Contractor shall keep on his work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Architect. The superintendent shall not be changed except with the consent of the Architect, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ. The superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor. Important directions shall be confirmed in writing to the Contractor. Other directions shall be so confirmed on written request in each case.

The Contractor shall give efficient supervision to the work using his best skill and attention. He shall carefully study and compare all drawings, specifications and other instructions and shall at once report to the Architect any error, inconsistency or omission which he may discover, but he shall not be held responsible for their existence or discovery.

Art. 15. Changes in the Work.—The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract Sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In giving instructions, the Architect shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the building, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order from the Owner signed or countersigned by the Architect, or a written order from the Architect stating that the Owner has authorized the extra work or change, and no claim for an addition to the contract sum shall be valid unless so ordered.

The value of any such extra work or change shall be determined in one or more of the following ways:

(a) By estimate and acceptance in a lump sum.
(b) By unit prices named in the contract or subsequently agreed upon.
(c) By cost and percentage or by cost and a fixed fee.

If none of the above methods is agreed upon, the Contractor, provided he receives an order as above, shall proceed with the work. In such case and also under case (c), he shall keep and present in such form as the Architect may direct, a correct account of the net cost of labor and materials, together with vouchers. In any case, the Architect shall certify to the amount, including reasonable allowance for overhead and profit, due to the Contractor. Pending final determination of value, payments on account of changes shall be made on the Architect's certificate.

Art. 16. Claims for Extra Cost.—If the Contractor claims that any instructions by drawings or otherwise involve extra cost under this contract, he shall give the Architect written notice thereof within a reasonable time after the receipt of such instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure shall then be as provided for changes in the work. No such claim shall be valid unless so made.

Art. 17. Deductions for Uncorrected Work.—If the Architect and Owner deem it inexpedient to correct work injured or done not in accordance with the Contract, an equitable deduction from the contract price shall be made therefor.

Art. 18. Delays and Extension of Time.—If the Contractor be delayed at any time in the progress of the work by any act or neglect of the Owner or the Architect, or of any employe of either, or by any other Contractor employed by the Owner, or by changes ordered in the work, or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties or any causes beyond the Contractor's control, or by delay authorized by the Architect pending arbitration, or by any cause which the Architect shall decide to justify the delay, then the time of completion shall be extended for such reasonable time as the Architect may decide.

No such extension shall be made for delay occurring more than seven days before claim therefor is made in writing to the Architect. In the case of a continuing cause of delay, only one claim is necessary.

If no schedule or agreement stating the dates upon which drawings shall be furnished is made, then no claim for delay shall be allowed on account of failure to furnish drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

This article does not exclude the recovery of damages for delay by either party under other provisions in the contract documents.

Art. 19. Correction of Work Before Final Payment.—The Contractor shall promptly remove from the premises all materials condemned by the Architect as failing to conform to the Contract, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the Owner and shall bear the expense of making good all work of other contractors destroyed or damaged by such removal or replacement.

If the Contractor does not remove such condemned work and materials within a reasonable time, fixed by written notice, the Owner may remove them and may store the material at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten days thereafter, the Owner may, upon ten days' written notice, sell such materials at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor.

Art. 20. Correction of Work After Final Payment.—Neither the final certificate nor payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, he shall remedy any defects due thereto and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of substantial completion. The Owner shall give notice of observed defects with reasonable promptness. All questions arising under this article shall be decided by the Architect subject to arbitration.

Art. 21. The Owner's Right to Do Work.—If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this contract, the Owner, after three days' written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor; provided, however, that the Architect shall approve both such action and the amount charged to the Contractor.

Art. 22. Owner's Right to Terminate Contract.—If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Architect, or otherwise be guilty of a substantial violation of any provision of the contract, then the Owner, upon the certificate of the Architect that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor seven days' written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expense of finishing the work including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner as herein provided, and the damage incurred through the Contractor's default, shall be certified by the Architect.

Art. 23. Contractor's Right to Stop Work or Terminate Contract.—If the work should be stopped under an order of any court, or other public authority, for a period of three months, through no act or fault of the

Contractor or of anyone employed by him, or if the Architect should fail to issue any certificate for payment within seven days after it is due, or if the Owner should fail to pay to the Contractor within seven days of its maturity and presentation, any sum certified by the Architect or awarded by arbitrators, then the Contractor may, upon seven days' written notice to the Owner and the Architect, stop work or terminate this contract and recover from the Owner payment for all work executed and any loss sustained upon any plant or materials and reasonable profit and damages.

Art. 24. Applications for Payments.—The Contractor shall submit to the Architect an application for each payment, and, if required, receipts or other vouchers, showing his payments for materials and labor, including payments to subcontractors as required by Art. 37.

If payments are made on valuation of work done, such application shall be submitted at least ten days before each payment falls due, and, if required, the Contractor shall, before the first application, submit to the Architect a schedule of values of the various parts of the work, including quantities, aggregating the total sum of the contract, divided so as to facilitate payments to sub-contractors in accordance with Article 37 (e), made out in such form as the Architect and the Contractor may agree upon, and, if required, supported by such evidence as to its correctness as the Architect may direct. This schedule, when approved by the Architect, shall be used as a basis for certificates of payment, unless it be found to be in error. In applying for payments, the Contractor shall submit a statement based upon this schedule, and, if required, itemized in such form and supported by such evidence as the Architect may direct, showing his right to the payment claimed.

If payments are made on account of materials delivered and suitably stored at the site but not incorporated in the work, they shall, if required by the Architect, be conditional upon submission by the Contractor of bills of sale or such other procedure as will establish the Owner's title to such material or otherwise adequately protect the Owner's interest.

Art. 25. Certificates of Payments.—If the Contractor has made application as above, the Architect shall, not later than the date when each payment falls due, issue to the Contractor a certificate for such amount as he decides to be properly due.

No certificate issued nor payment made to the Contractor, nor partial or entire use or occupancy of the work by the Owner, shall be an acceptance of any work or materials not in accordance with this contract. The making and acceptance of the final payment shall constitute a waiver of all claims by the Owner, other than those arising from unsettled liens, from faulty work appearing after final payment or from requirement of the specifications, and of all claims by the Contractor, except those previously made and still unsettled.

Should the Owner fail to pay the sum named in any certificate of the Architect or in any award by arbitration, upon demand when due, the Contractor shall receive, in addition to the sum named in the certificate, interest thereon at the legal rate in force at the place of building.

Art. 26. Payments Withheld.—The Architect may withhold or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect the Owner from loss on account of:

(a) Defective work not remedied.
(b) Claims filed or reasonable evidence indicating probable filing of claims.
(c) Failure of the Contractor to make payments properly to subcontractors or for material or labor.
(d) A reasonable doubt that the contract can be completed for the balance then unpaid.
(e) Damage to another Contractor.

When the above grounds are removed payment shall be made for amounts withheld because of them.

Art. 27. Contractor's Liability Insurance.—The Contractor shall maintain such insurance as will protect him from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. Cer-

tificates of such insurance shall be filed with the Owner, if he so require, and shall be subject to his approval for adequacy of protection.

Art. 28. Owner's Liability Insurance.—The Owner shall be responsible for and at his option may maintain such insurance as will protect him from his contingent liability for damages for personal injury, including death, which may arise from operations under this contract.

Art. 29. Fire Insurance.—The Owner shall effect and maintain fire insurance upon the entire structure on which the work of this contract is to be done and upon all materials, in or adjacent thereto and intended for use thereon, to at least eighty per cent of the insurable value thereof. The loss, if any, is to be made adjustable with and payable to the Owner as Trustee for whom it may concern.

All policies shall be open to inspection by the Contractor. If the Owner fails to show them on request, or if he fails to effect or maintain insurance as above, the Contractor may insure his own interest and charge the cost thereof to the Owner. If the Contractor is damaged by failure of the Owner to maintain such insurance, he may recover as stipulated in the contract for recovery of damages.

If required in writing by any party in interest, the Owner as Trustee shall, upon the occurrence of loss, give bond for the proper performance of his duties. He shall deposit any money received from insurance in an account separate from all his other funds and he shall distribute it in accordance with such agreement as the parties in interest may reach, or under an award of arbitrators appointed, one by the Owner, another by joint action of the other parties in interest, all other procedure being as provided elsewhere in the contract for Arbitration. If after loss no special agreement is made, replacement of injured work shall be ordered and executed as provided for changes in the work.

The Trustee shall have power to adjust and settle any loss with the insurers unless one of the Contractors interested shall object in writing within three working days of the occurrence of loss, and thereupon arbitrators shall be chosen as above. The Trustees shall in that case make settlement with the insurers in accordance with the directions of such arbitrators, who shall also, if distribution by arbitration is required, direct such distribution.

Art. 30. Guaranty Bonds.—The Owner shall have the right, prior to the signing of the Contract, to require the Contractor to furnish bond covering the faithful performance of the Contract and the payment of all obligations arising thereunder, in such form as the Owner may prescribe and with such sureties as he may approve. If such bond is required by instructions given previous to the submission of bids, the premium shall be paid by the Contractor; if subsequent thereto, it shall be paid by the Owner.

Art. 31. Damages.—If either party to this Contract should suffer damage in any manner because of any wrongful act or neglect of the other party or of anyone employed by him, then he shall be reimbursed by the other party for such damage.

Claims under this clause shall be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except as expressly stipulated otherwise in the case of faulty work or materials, and shall be adjusted by agreement or arbitration.

Art. 32. Liens.—Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the Owner a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as he has knowledge or information the releases and receipts include all the labor and material for which a lien could be filed; but the Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remain unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

Art. 33. Assignment.—Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner.

Art. 34. Mutual Responsibility of Contractors.—Should the Contractor cause damage to any other contractor on the work the Contractor agrees, upon due notice, to settle with such contractor by agreement or arbitration, if he will so settle. If such other contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor, who shall defend such proceedings at the Owner's expense and, if any judgment against the Owner arise therefrom. the Contractor shall pay or satisfy it and pay all costs incurred by the Owner.

Art. 35. Separate Contracts.—The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs.

If any part of the Contractor's work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report to the Architect any defects in such work that render it unsuitable for such proper execution and results. His failure so to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other contractor's work after the execution of his work.

To insure the proper execution of his subsequent work the Contractor shall measure work already in place and shall at once report to the Architect any discrepancy between the executed work and the drawings.

Art. 36. Subcontracts.—The Contractor shall, as soon as practicable after the signature of the contract, notify the Architect in writing of the names of subcontractors proposed for the principal parts of the work and for such others as the Architect may direct and shall not employ any that the Architect may within a reasonable time object to as incompetent or unfit.

If the Contractor has submitted before signing the contract a list of subcontractors and the change of any name on such list is required in writing by the Owner after signature of agreement, the contract price shall be increased or diminished by the difference in cost occasioned by such change.

The Architect shall, on request, furnish to any subcontractor, wherever practicable, evidence of the amounts certified on his account.

The Contractor agrees that he is as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the Owner.

Art. 37. Relations of Contractor and Subcontractor.—The Contractor agrees to bind every Subcontractor and every Subcontractor agrees to be bound by the terms of the Agreements, the General Conditions, the Drawings and Specifications as far as applicable to his work, including the following provisions of this article, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner or Architect.

This does not apply to minor subcontracts.

The Subcontractor agrees—

(a) To be bound to the Contractor by the terms of the Agreement, General Conditions, Drawings and Specifications, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the Owner.

(b) To submit to the Contractor applications for payment in such reasonable time as to enable the Contractor to apply for payment under Article 24 of the General Conditions.

(c) To make all claims for extras, for extensions of time and for damages for delays or otherwise, to the Contractor in the manner provided in the General Conditions for like claims by the Contractor upon the Owner, except that the time for making claims for extra cost is one week.

The Contractor agrees—

(d) To be bound to the Subcontractor by all the obligations that the Owner assumes to the Contractor under the Agreement, General Conditions, Drawings and Specifications, and by all the provisions thereof affording remedies and redress to the Contractor from the Owner.

(e) To pay the Subcontractor, upon the issuance of certificates, if issued under the schedule of values described in Article 24 of the General Conditions, the amount allowed to the Contractor on account of the Subcontractor's work to the extent of the Subcontractor's interest therein.

(f) To pay the Subcontractor, upon the issuance of certificates, if issued otherwise than as in (e), so that at all times his total payment shall be as large in proportion to the value of the work done by him as the total amount certified to the Contractor is to the value of the work done by him.

(g) To pay the Subcontractor to such extent as may be provided by the Contract Documents or the subcontract, if either of these provides for earlier or larger payments than the above.

(h) To pay the Subcontractor on demand for his work or materials as far as executed and fixed in place, less the retained percentage, at the time the certificate should issue, even though the Architect fails to issue it for any cause not the fault of the Subcontractor.

(j) To pay the Subcontractor a just share of any fire insurance money received by him, the Contractor, under Article 29 of the General Conditions.

(k) To make no demand for liquidated damages or penalty for delay in any sum in excess of such amount as may be specifically named in the subcontract.

(l) That no claim for services rendered or materials furnished by the Contractor to the Subcontractor shall be valid unless written notice thereof is given by the Contractor to the Subcontractor during the first ten days of the calendar month following that in which the claim originated.

(m) To give the Subcontractor an opportunity to be present and to submit evidence in any arbitration involving his rights.

(n) To name as arbitrator under arbitration proceedings as provided in the General Conditions the person nominated by the Subcontractor, if the sole cause of dispute is the work, materials, rights or responsibilities of the Subcontractor; or, if of the Subcontractor and any other subcontractor jointly, to name as such arbitrator the person upon whom they agree.

The Contractor and the Subcontractor agree that—

(o) In the matter of arbitration, their rights and obligations and all procedure shall be analogous to those set forth in this contract.

Nothing in this article shall create any obligation on the part of the Owner to pay to or to see to the payment of any sums to any Subcontractor.

Art. 38. ~~Architect's~~ Status.—The Architect shall have general supervision and direction of the work. He is the agent of the Owner only to the extent provided in the Contract Documents and when in special instances he is authorized by the Owner so to act, and in such instances he shall upon request, show the Contractor written authority. He has authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract.

As the Architect is, in the first instance, the interpreter of the conditions of the Contract and the judge of its performance, he shall side neither with the Owner nor with the Contractor, but shall use his powers under the contract to enforce its faithful performance by both.

~~In case of the termination of the employment of the Architect, the Owner shall appoint a capable and reputable Architect, whose status under the contract shall be that of the former Architect.~~ } out!

Art. 39. Architect's Decisions.—The Architect shall, within a reasonable time, make decisions on all claims of the Owner or Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents.

The Architect's decisions, in matters relating to artistic effect, shall be final, if within the terms of the Contract Documents.

Except as above or as otherwise expressly provided in the Contract Documents, all the Architect's decisions are subject to arbitration.

Art. 40. Arbitration.—All questions subject to arbitration under this Contract shall be submitted to arbitration at the choice of either party to the dispute.

The Contractor shall not cause a delay of the work during any arbitration proceedings, except by agreement with the Owner.

The demand for arbitration shall be filed in writing with the Architect, in the case of an appeal from his decision, within ten days of its receipt and in any other case within a reasonable time after cause thereof and in no case later than the time of final payment, except as otherwise expressly stipulated in the Contract. If the Architect fails to make a decision within a reasonable time, an appeal to arbitration may be taken as if his decision had been rendered against the party appealing.

No one shall be nominated or act as an arbitrator who is in any way financially interested in this Contract or in the business affairs of either the Owner, Contractor or Architect.

Unless otherwise provided by controlling statutes, the parties may agree upon one arbitrator; otherwise there shall be three, one named in writing, by each party to this Contract, to the other party and to the Architect and the third chosen by these two arbitrators, or if they fail to select a third within fifteen days, then he shall be chosen by the presiding officer of the Bar Association nearest to the location of the work. Should the party demanding arbitration fail to name an arbitrator within ten days of his demand, his right to arbitration shall lapse. Should the other party fail to choose an arbitrator within said ten days, then such presiding officer shall appoint such arbitrator. Should either party refuse or neglect to supply the arbitrators with any papers or information demanded in writing, the arbitrators are empowered by both parties to proceed ex parte.

If there be one arbitrator his decision shall be binding; if three the decision of any two shall be binding. Such decision shall be a condition precedent to any right of legal action, and wherever permitted by law it may be filed in Court to carry it into effect.

The arbitrators, if they deem that the case demands it, are authorized to award to the party whose contention is sustained such sums as they shall deem proper for the time, expense and trouble incident to the appeal and, if the appeal was taken without reasonable cause, damages for delay. The arbitrators shall fix their own compensation, unless otherwise provided by agreement, and shall assess the costs and charges of the arbitration upon either or both parties.

The award of the arbitrators shall be in writing and it shall not be open to objection on account of the form of the proceeding or the award, unless otherwise provided by the controlling statutes.

In the event of such statutes providing on any matter covered by this article otherwise than as hereinbefore specified, the method of procedure throughout and the legal effect of the award shall be wholly in accordance with the said statutes, it being intended hereby to lay down a principle of action to be followed, leaving its local application to be adapted to the legal requirements of the jurisdiction having authority over the arbitration.

Art. 41. Cash Allowances.—The Contractor shall include in the contract sum all allowances named in the Contract Documents and shall cause the work so covered to be done by such contractors and for such sums as the Architect may direct, the contract sum being adjusted in conformity therewith. The Contractor declares that the contract sum includes such sums for expenses and profit on account of cash allowances as he deems proper. No demand for expenses or profit other than those included in the contract sum shall be allowed. The Contractor shall not be required to employ for any such work persons against whom he has a reasonable objection.

Art. 42. Use of Premises.—The Contractor shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, permits or directions of the Architect and shall not unreasonably encumber the premises with his materials.

The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.

The Contractor shall enforce the Architect's instructions regarding signs, advertisements, fires and smoking.

Art. 43. Cutting, Patching and Digging.—The Contractor shall do all cutting, fitting or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon, or reasonably implied by, the Drawings and Specifications for the completed structure, and he shall make good after them as the Architect may direct.

Any cost caused by defective or ill-timed work shall be borne by the party responsible therefor.

The Contractor shall not endanger any work by cutting, digging or otherwise, and shall not cut or alter the work of any other contractor save with the consent of the Architect.

Art. 44. Cleaning Up.—The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employes or work, and at the completion of the work he shall remove all his rubbish from and about the building and all his tools, scaffolding and surplus materials and shall leave his work " broom clean " or its equivalent, unless more exactly specified. In case of dispute the Owner may remove the rubbish and charge the cost to the several contractors as the Architect shall determine to be just.

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